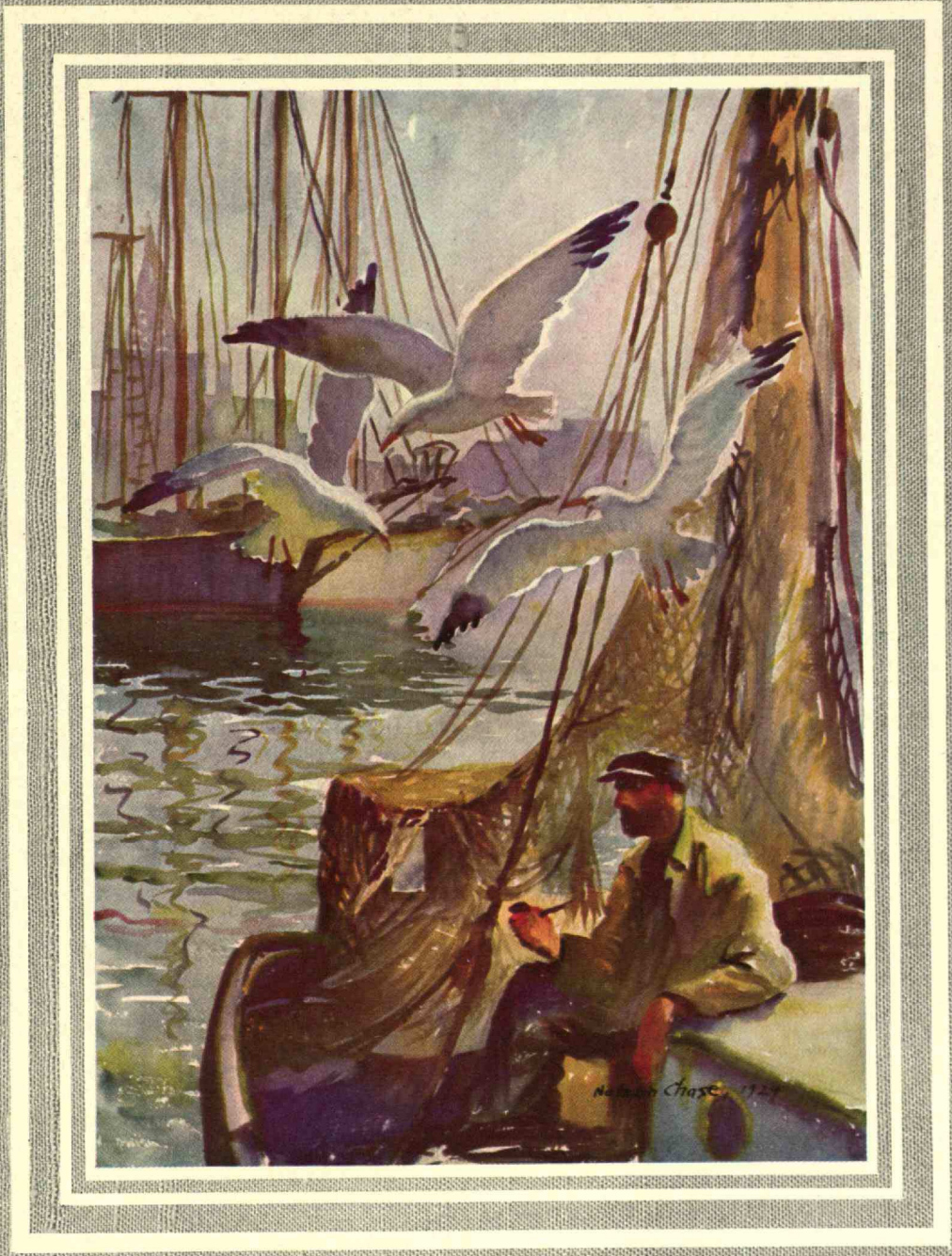
THE·TECHNOLOGY REVIEW



APRIL 1930

technology
review
Published by MIT

New Milwaukee Gas Light Co. Building . . . . Now Under Construction

Eschweiler & Eschweiler . . . *Architects*
Wenzel & Henoch . . . . . *Contractors*

THE GAS LIGHT CO. BUILDING, MILWAUKEE, — pictured here — will have all heat and ventilation Johnson Controlled. The building will be occupied by the Gas Company, with space also available for public rental. A low pressure two-pipe vacuum system of heating will be used, steam purchased from a central station. All direct radiation will be controlled by Johnson Dual (Night and Day) Thermostats: divided into five separate groups, each group controlled by a dual clock, as follows: Basement, 1st, 2nd, 3rd, floors; 4th, 5th, 6th and 17th floors; 8th, 9th, 10th, 15th and 16th floors; 11th and 12th floors; 13th and 14th floors. Thus the heat will be automatically, and most economically, regulated night and day in separate sections and according to the varying uses of the rooms on the different floors. Three supply ventilation (fan) systems will be used: for the basement, 1st and 2nd floors (which will be the showrooms and company's general offices); the Home Service Department on the 11th and 12th floors; the Cafeteria and Kitchen on the 13th and 14th floors: all of them Johnson Controlled. This again indicates how The Johnson System applies to every form, plan and system of heating and ventilating: interestingly explained in literature sent upon request.

JOHNSON SERVICE COMPANY . . . . . Milwaukee, Wisconsin
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THE TECHNOLOGY REVIEW, April, 1930. Vol. XXXII, No. 6. Published monthly from October to May and in July at 10 Ferry Street, Concord, N. H. Publication date: twenty-seventh of the month preceding date of issue. Annual subscription $3.50; Canadian and Foreign subscription $4.00. Entered as second-class matter at the Post Office at Concord, N. H., under the Act of March 3, 1879.

THE TABULAR VIEW

GREAT GRAIN ELEVATORS are being built on the shores of Lake Ontario and new harbors are being suggested as a result of the building of the new Welland Ship Canal: Government engineers have just reported favorably on the development of a harbor at Oswego, N. Y. When the canal opens in July, Lake Ontario ports will receive much of the "ex-lake" grain now being transshipped at Buffalo, and if Oswego is to take advantage of its opportunities, the suggestions of the Army engineers must be consummated. Eastern ports, such as Boston, will receive a large proportion of the trans-shipped cargoes and they are just beginning to realize the importance to them of the Welland Ship Canal development. To all interested in this aspect of America's transportation development, as well as to those interested in new engineering achievements, the article on the Welland Ship Canal on page 283 will be helpful and revealing. Its author, JOHN J. ROWLANDS, is Contributing Editor of The Review, and readers will remember his widely quoted article, "Science and the Front Page," presented in December.

FOR YEARS the textile industry has been hard pressed and unsuccessful. HIBBARD S. BUSBY, '14, Director of the A. French Textile School of the Georgia School of Technology, undertakes a diagnosis on page 288. Mr. Busby's career has led him into the paper industry, into the cost department and engineering division of a silk mill, and into the laboratory as a research colorist. It is interesting to observe that the Institute of Technology has anticipated Professor Busby in some of his suggestions in that it has extended its work in textile engineering not only to students but to textile executives and directors who wish special intensive training in fundamental research by offering a course of seventeen hours a week for six weeks. Men busy in the industry have been able to avail themselves of the opportunity without greatly interfering with their regular work. With enlarged research laboratories under the direction of PROFESSORS GEORGE B. HAVEN, '94, and EDWARD R. SCHWARTZ, '23, special courses have also been offered to the graduates of the various textile schools of the country. Two options have been available; one for those wishing to specialize in manufacturing problems which may be summarized under the general term of textile engineering and the second for those desiring training in chemistry, bleaching, dyeing, and similar subjects in the field of textile chemistry.

"THE MOST STRIKING GENIUS of contemporary architecture is probably LE CORBUSIER. Though he was the first to invent the phrase *machine à habiter* (machine for living in), he has never been content with purely utilitarian aims. Acutely sensitive to the rhythmic beauty of the Parthenon, of Santa Sophia, and of Michael Angelo's work in St. Peter's, he seeks to create in his buildings a similar lyricism. And it is certainly in his work rather than in the enormous monuments of pastiche, however tasteful and elaborate, which academic architects design, that our age finds its approximate expres-

(Concluded on page 278)

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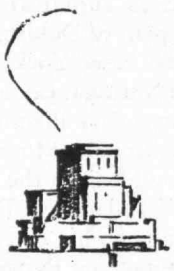

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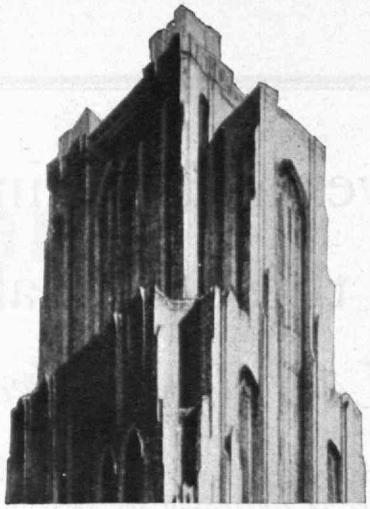
THE TABULAR VIEW

(Concluded from page 276)

sion." It is in this manner that the subject of MR. NOLEN's article on page 291 is described in "The New Interior Decoration," by DOROTHY TODD and RAYMOND MORTIMER. LE CORBUSIER is becoming more and more recognized as an outstanding figure in contemporary architecture, and his suggestions for the replanning of our cities have received wide attention. MR. NOLEN, who reviews his work, is a city planning landscape architect who has achieved eminence in his field. He holds degrees from the University of Pennsylvania, Harvard, and Hobart and in 1900 he studied at Munich. He has designed and supervised the building of innumerable civic and suburban developments and he has acted as adjudicator of the competitive designs for the city plan of Dublin, Ireland. He has been associated with the New York Regional Plan and is Past President on the National Conference on City Planning, and of the American City Planning Institute. He is the author of "Madison, a Model City," "Replanning Small Cities," "New Ideals in the Planning of Cities, Towns, and Villages," and "New Towns for Old." It is evident that he brings to his discussion of LE CORBUSIER and to his commentary on PROFESSOR and MRS. HUBBARD'S "Our Cities Today and Tomorrow" an immense amount of experience and learning. ¶ DR. JAMES A. TOBEY, '15, is a frequent contributor to The Review. His "Business Discovers Health" appeared in the last issue.

THE REVIEW for May will be the largest issue ever published. It will contain an important article by JAMES TRUSLOW ADAMS, "Is History a Science?"; a timely admonition to print collectors by CHARLES CHILDS; a survey of science and engineering in Sweden by DR. WALDEMAR LINDGREN; and a biographical sketch of KARL T. COMPTON, President-Elect of the Institute. There will be reproduced a series of beautiful industrial photographs by MARGARET BOURKE-WHITE. The issue will exemplify The Review's policy of presenting science and engineering not dully or prosaically, but with imagination, interpretation, lucidity, and a sense of beauty. There is a demand for a journal that views the world through the eyes of the scientist and engineer and The Review is responding to this demand. In doing so it aims to be accurate, authoritative, and free from sensationalism.

THE SUBJECT reproduced on the cover of this issue is a water color, "T-Wharf," by NELSON CHAUNCY CHASE, '17, an instructor in the Institute's Department of Architecture. MR. CHASE has done many delightful water colors and undoubtedly Review readers are already acquainted with his series of the Institute. He also had a hand in designing the present cover series. ¶ The Review is desirous of locating water colors of engineering and technical subjects. Some are already known to the Editors but they would like to know of others for possible reproduction.



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THE TECHNOLOGY REVIEW

Edited at the Massachusetts Institute of Technology

VOLUME XXXII NUMBER 6

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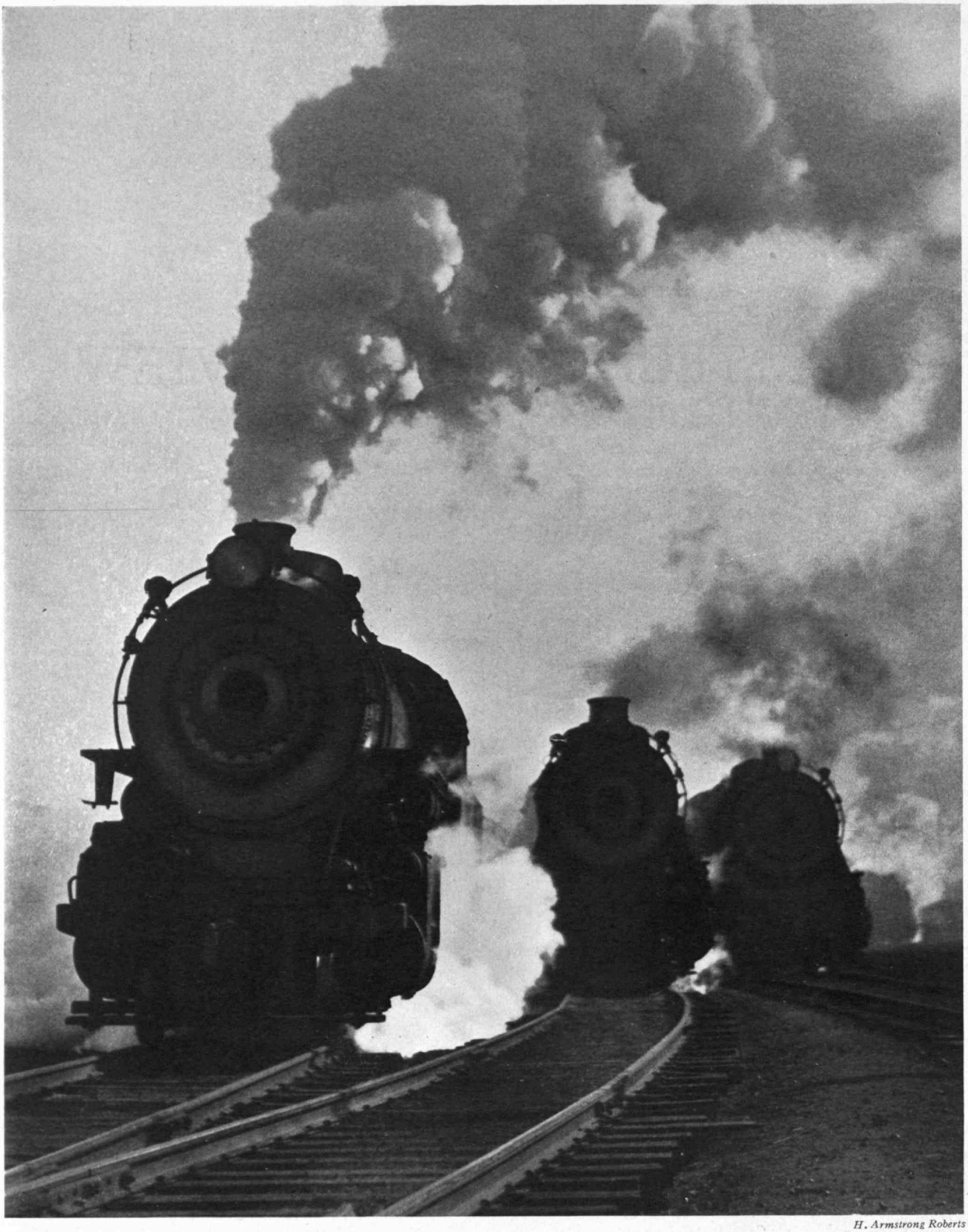


H. Armstrong Roberts

BIG POWER

ROAD ENGINES WITH STEAM UP, WAITING FOR THE RUN

The TECHNOLOGY REVIEW

VOLUME 32 · APRIL, 1930 · NUMBER 6

SAILING AROUND NIAGARA

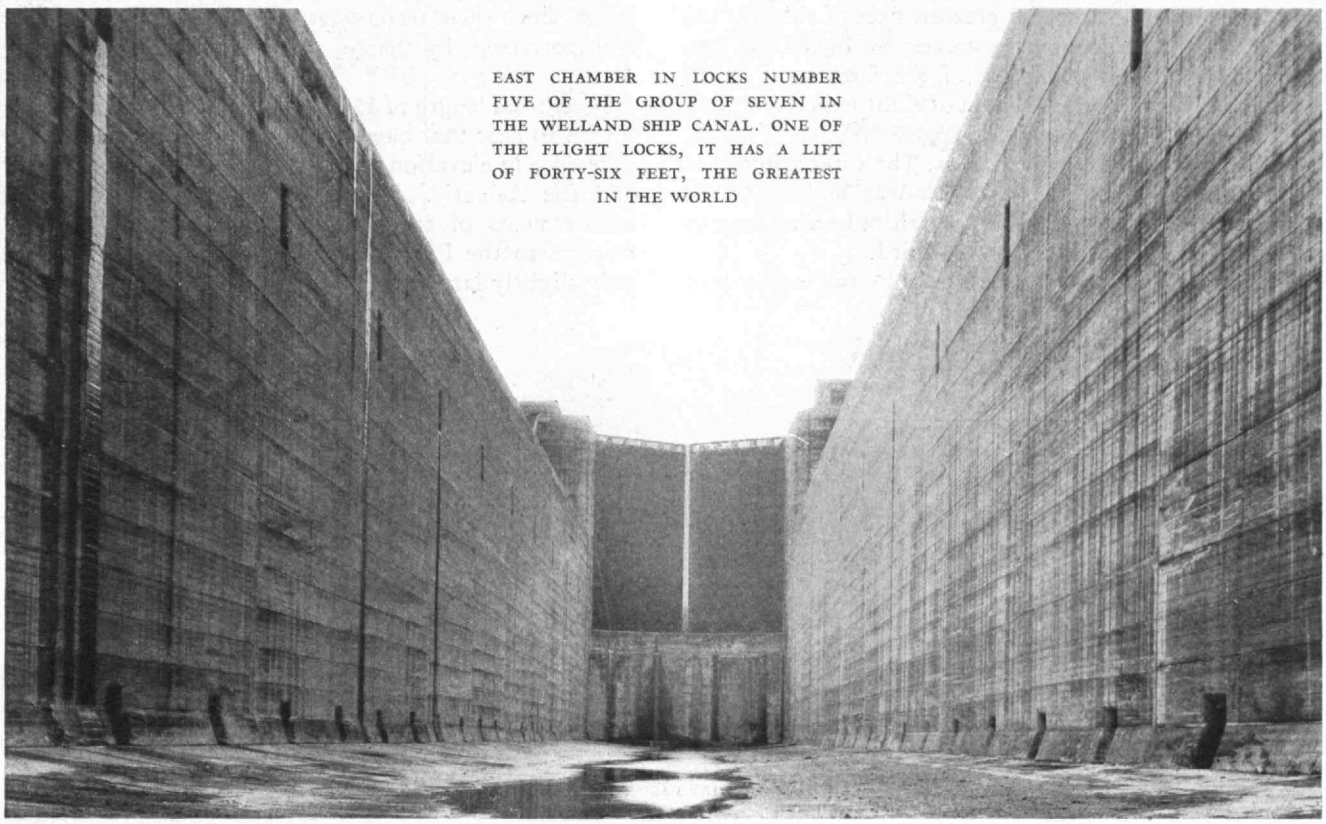
The Great Welland Ship Canal Connects Two Inland Seas

BY JOHN J. ROWLANDS

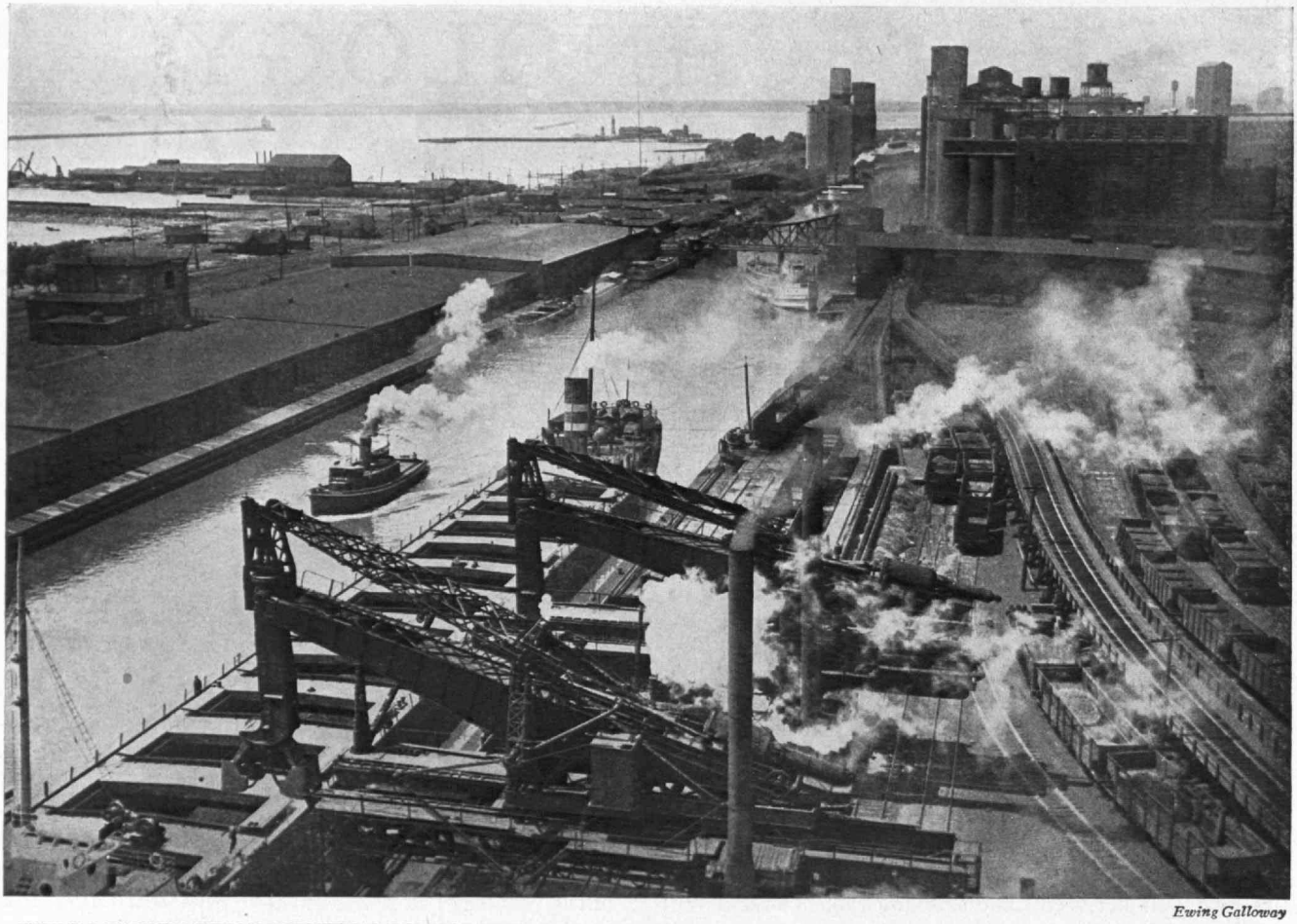
Editor's Note: Despite the discussion of interior waterways engendered by President Hoover's emphasis on the subject, almost nothing has been said or written about Canada's quiet progress in connecting the Great Lakes with the sea via the St. Lawrence. The Welland Ship Canal is a notable engineering accomplishment, and The Review presents herewith what is believed to be the first comprehensive study of its importance as a link in the inland water routes of North America.

AS A BARRIER to more than 90% of the commerce of the Great Lakes, Niagara Falls will be circumvented this year when Canada completes the great Welland Ship Canal. This new waterway across the Niagara Peninsula between Lake Erie and Lake Ontario will open a vast inland sea and the broad upper reaches of the St. Lawrence River to the great fleet of grain and ore carriers which hitherto have been held to the upper lakes because of the shallow draft of the present Welland Canal.

Completion of the new ship canal, which was started in 1913, and is the most important link in the great highway of shipping that stretches 2,300 miles from the head of Lake Superior to the Gulf of St. Lawrence, will mark the beginning of a new era of commerce on the Great Lakes. The striking significance of this new waterway and its possibilities are best revealed by an examination of the volume of shipping in the upper Great Lakes. It is not generally realized that the Sault Ste. Marie Ship Canals in the St. Mary's River, linking Lake Superior



EAST CHAMBER IN LOCKS NUMBER FIVE OF THE GROUP OF SEVEN IN THE WELLAND SHIP CANAL. ONE OF THE FLIGHT LOCKS, IT HAS A LIFT OF FORTY-SIX FEET, THE GREATEST IN THE WORLD



Ewing Galloway

BUFFALO HARBOR: TYPICAL INDUSTRIAL DEVELOPMENT ALONGSIDE A CANAL. IN THE FOREGROUND ARE IRON ORE DOCKS AND FREIGHT YARDS; IN THE BACKGROUND, A CLUSTER OF IMMENSE GRAIN ELEVATORS

and Lake Huron, carry the greatest fleet of ships in the world, with a cargo tonnage greater by 18,000,000 tons than the combined commerce of the Suez and Panama Canals. In the navigation season of eight months in 1928, a total of 19,286 ships carrying 86,993,000 tons of cargo, moved through the "Soo" Canals. The total tonnage of the Suez Canal for that entire year was 36,050,000; the Panama Canal, with a total of 6,456 ships bearing cargoes weighing 32,950,000 tons, ranked third.

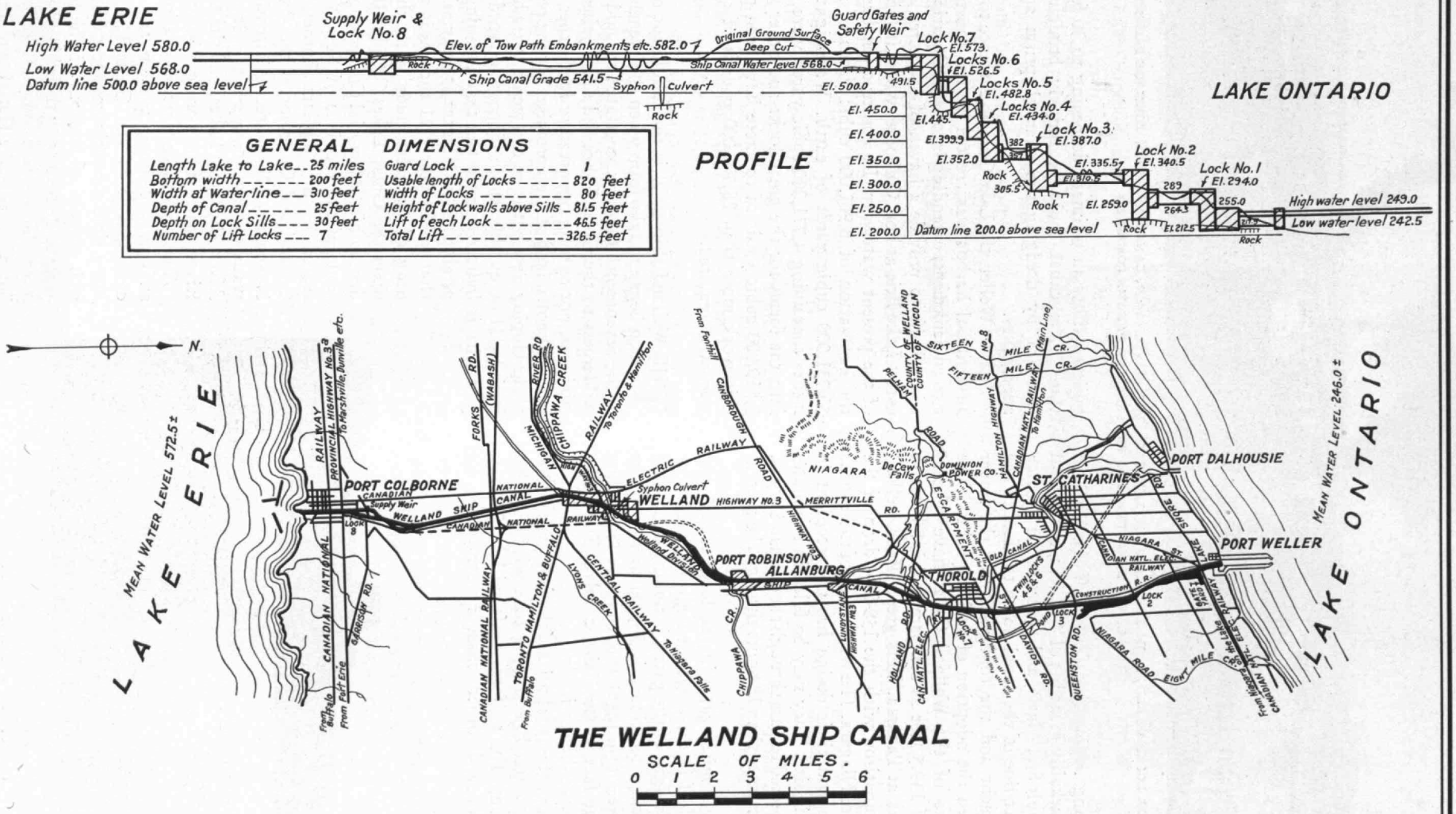
Circumnavigation of Niagara Falls by the largest lake vessels will bring them hundreds of miles nearer the sea, and constitutes an important stride toward the goal of deep water transportation in that section of the St. Lawrence where the canal system now permits the passage of only small vessels of fourteen-foot draft. Here, then, in the riverway lies the last barrier in the projected deep passage from the Great Lakes to the Atlantic seaways. There are two other outlets to the sea. These are the New York State Barge Canal system between Lake Erie and the Hudson River, and the Illinois Canal connecting Lake Michigan with the Mississippi River through the Illinois River. Both these waterways, however, are designed for transportation by barges of comparatively shallow draft.

A. E. Young

A GRAIN-CARRIER PASSING THROUGH THE SAULT STE. MARIE SHIP CANAL

In its total length of 25 miles, the Welland Ship Canal, fourth to bear that name, overcomes more than half the difference in elevation of 602 feet between Lake Superior and the Atlantic. As one of the great engineeering achievements of the time, it is comparable in many respects to the Panama Canal, the locks of which are only slightly larger.

The new Welland Canal has only 8 blocks as compared with 25 in the present canal. Three of these locks are built in flight formation similar to the famous Gatun group in the Panama Canal. Some idea of their size may be gained from the fact that they have a usable length of 820 feet, are 80 feet wide, with 30 feet of water over the sills at lowest lake stages. The locks of the Panama Canal are 180 feet longer and have a greater draft, while the American locks at Sault Ste. Marie have a usable length of 1,300 feet. One of the locks in the new Welland Canal, that into which ships are received from Lake Erie, is 1,380 feet long.



How the Niagara Peninsula is Traversed by Ships

A. E. Young

SAULT STE. MARIE LOCKS NAMED, FROM LEFT TO RIGHT: WEITZEL, POE, DAVIS, SABIN, CANADIAN. MORE TONNAGE PASSES THROUGH THIS CANAL THAN THROUGH THE SUEZ AND PANAMA COMBINED

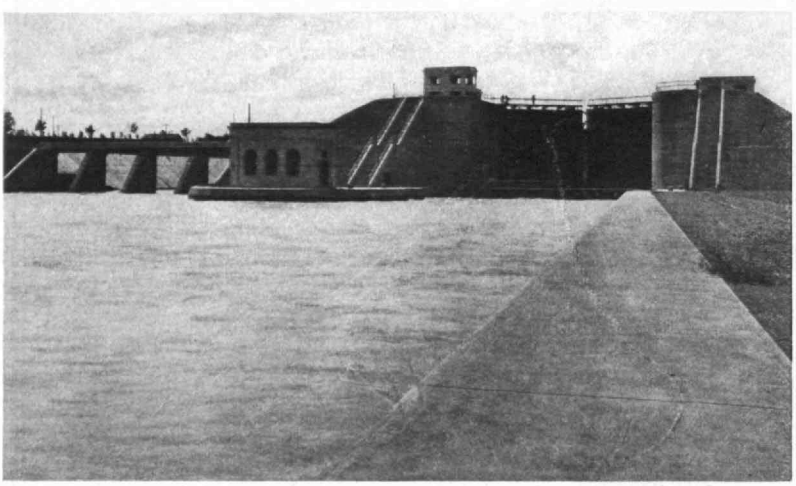
The outstanding engineering feature of the Welland locks is the remarkably great lift of 46.5 feet, as opposed to 20.5 feet at Sault Ste. Marie, and 31 feet in the Panama Canal. The direct line of the canal down the face of the Niagara escarpment and the topography of the lower plateau permitted the adoption of such high lifts. The twin-flight locks of the Welland Canal have a total aggregate lift of 139.5 feet as compared with 85 feet in the Gatun Locks at Panama. This great lift is well illustrated by comparison with the 158-foot drop of the Horseshoe Falls of Niagara. The wall of one of these locks is 130 feet high and their design has no precedent in chambers of their size. They may be filled in 8 minutes and ships are expected to pass through the canal in 8 hours, as compared with more than 18 hours through the present canal.

The huge lower mitre gates in the locks are 82 feet high, and each leaf in these gates weighs 495 tons. The total estimated weight of the gates, including their fixed parts and operating machinery is 23,000 tons, and the massive gate valves of the regulating weirs are 15 feet long and 7 feet on the face of the Taintor valve. The entire canal will be operated electrically.

Outside the locks the canal prism (channel) will be 300 feet wide at the water line sloping to a width of 200 feet at the bottom. The uniform draft will be 25 feet, but as all locks and other masonry structures are built to allow an ultimate deepening to 30 feet at low water, the canal could be quickly brought to that standard by dredging the channel prism and harbor approaches.

At Port Weller, the Lake Ontario entrance to the canal, an artificial harbor was created by the construction of two embankments extending into Lake Ontario for a mile and a half, to provide a haven of 150 acres. The canal enters Lake Erie at Port Colborne, where it joins the line of the present waterway. Its construction has involved the excavation of 8,961,000 cubic yards of rock, and 50,731,000 cubic yards of earth. Watertight embankments containing 4,771,000 cubic yards were built, and into the forms for the great locks and other structures, 3,516,000 cubic yards of concrete have been poured. In this work more than 28,700,000 pounds of reinforcing steel were required.

THE Welland ship canal is the fulfillment of a dream which began to take form when the French explorers of the Seventeenth Century penetrated the mid-continent wilderness to the Great Lakes and saw in these vast inland seas, not only an opportunity for further adventure in an unknown land of high promise, but the possibilities of developing new paths of commerce in trade with the Indians. How quickly those pioneers grasped their opportunity is indicated in the fact that a trading post was established at Niagara as early as 1720, and that in the year 1721 there was the beginning of "a great trade with the Indians upon the Great Lakes." Cadwallader Colden, in his "Memorial Concerning the Furr-trade of the Province of New York" presented to Sir William Burnet, Captain-General and Governor of the Province, in November, 1724, directed attention to the water-carriage between the St. Lawrence River, the Great Lakes, and the Mississippi River, with short portages between them.



LOWER ENTRANCE ON LAKE ONTARIO LOOKING SOUTH-EAST, TO LOCK NUMBER ONE OF THE WELLAND SHIP CANAL

The importance of transportation has been strikingly demonstrated in the economic development of the Great Lakes region. For a time the early voyagers who brought rich cargoes of furs out of the wilderness were content to carry their birchbark canoes over the portage which separated Lake Superior and Lake Huron, and again across

the peninsula between Lake Erie and Lake Ontario. Beyond lay the rapids of the great St. Lawrence, rugged barriers in this great waterway to the sea.

To that gallant band of adventurers, of which the Northwest Fur Company was composed, must go credit for the first step in improving the transportation routes of the Great Lakes. This was begun in 1796, when a small lock was built to overcome the swift descent of the St. Mary's River at Sault Ste. Marie between Lake Superior and Lake Huron. Within two years after the undertaking was started, the big birchbark freight canoes of the company's rapidly growing fleet were passed from one lake to another without disturbing their valuable cargoes of fur. This step opened a trade route unbroken by portages from the head of Lake Michigan and Lake Superior, through Lake Huron, the St. Clair, and Detroit Rivers, and Lake Erie, to the brink of the great falls of Niagara, known at one time as Jagara. At this point travelers faced a long portage to Lake Ontario.

A. E. Young

PUSHING THROUGH THE "SOO" BEFORE WINTER CLOSES THE CANAL

As early as 1710, Clerambaut d'Aigremont, a special agent of the French Government, traveled through this country, and in making report to Louis XIV, said: "When I passed the portage at Niagara it did not appear to me that any communication between Lake Ontario and Lake Erie could be made that could avoid this portage, and if M. de la Mothe (Cadillac) knows a means of doing so, I think he is the only man in the country who does. But, My Lord, even if it were true that a communication with Lake Ontario or Lake Erie could be made, it could only be done with very great expense and it would not follow from that, that Detroit would be able to obtain from Montreal any help it might need in case of war with the Iriquois, for such help could not even be given to Fort Frontenac, which has to be passed through on the way to Detroit."

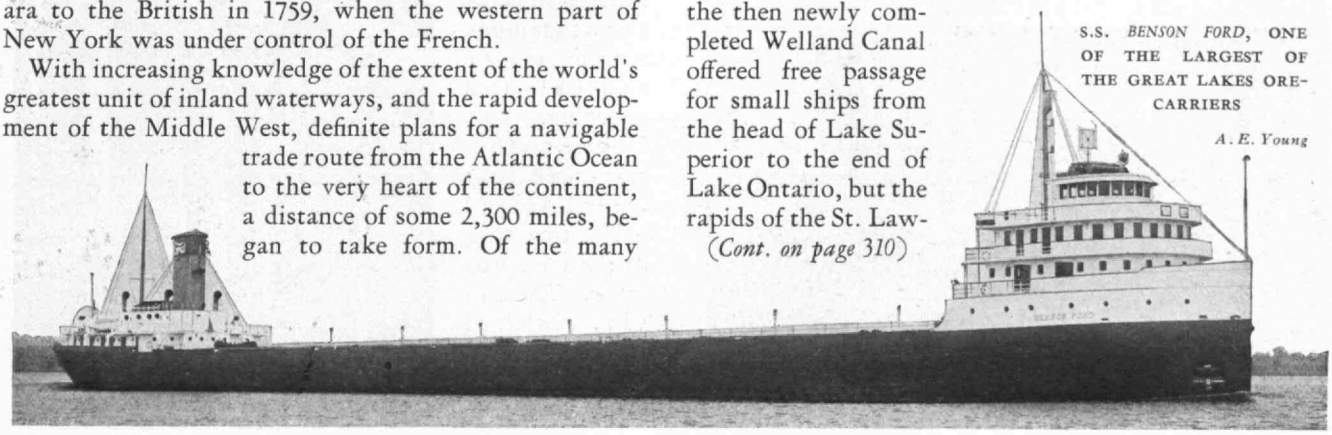
History leaves no record of any attempt to establish a navigable waterway between Lake Ontario and Lake Erie for several decades after the surrender of Fort Niagara to the British in 1759, when the western part of New York was under control of the French.

With increasing knowledge of the extent of the world's greatest unit of inland waterways, and the rapid development of the Middle West, definite plans for a navigable trade route from the Atlantic Ocean to the very heart of the continent, a distance of some 2,300 miles, began to take form. Of the many natural obstacles to be overcome, the thundering rapids of Niagara and the towering escarpment over which the waters of Lake Erie plunged, loomed as the greatest. At this point all freight was laboriously transported overland from Queenstown on Lake Ontario at the mouth of the Niagara River, a distance of some 20 miles to Chippewa Creek which flows into the river above Niagara Falls. Finally in November 1824, a private Canadian enterprise called the Welland Canal Company was organized by the late Honorable William Hamilton Merritt. Then began the formidable task of building a waterway across the Niagara Peninsula, famous as one of Canada's garden spots where vineyards and orchards reach as far as the eye can see.

In 1829 this first navigable waterway between Lake Erie and Lake Ontario was opened for traffic. The significance of that day was increased throughout the years. Then it was that two schooners, a Canadian and an American, sailed into the entrance of the first Welland Canal to the cheers of a great throng of spectators, and passed from Lake Erie to Lake Ontario. This first canal was one of the most daring engineering feats of its day. The difference in elevation between Lake Superior and the Atlantic Ocean is 602 feet, and of this altitude, the Welland Canal alone had to lift ships 326 feet, or more than half the height, crossing a peninsula 25 miles wide and scaling the steep Niagara escarpment at a point some 10 miles west of Niagara Falls.

The original Northwest Fur Company's canal between Lake Superior and Lake Huron at Sault Ste. Marie, and the then newly completed Welland Canal offered free passage for small ships from the head of Lake Superior to the end of Lake Ontario, but the rapids of the St. Law-

(*Cont. on page 310*)



S.S. *BENSON FORD*, ONE OF THE LARGEST OF THE GREAT LAKES ORE-CARRIERS

A. E. Young

THE SICK TEXTILE INDUSTRY

Anachronistic Management and Technique Deprive It of Success

By Hibbard S. Busby

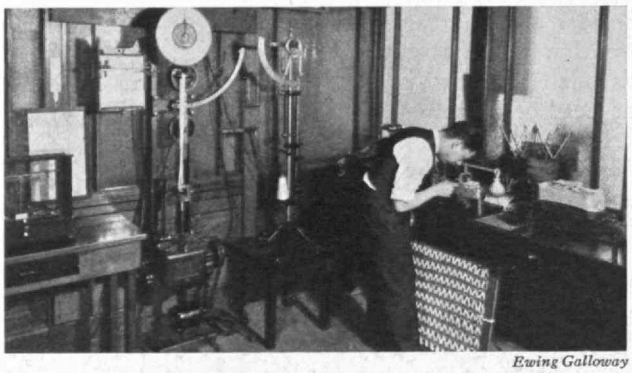
DURING the latter days of the Eighteenth Century, the manufacture of cotton textiles was revolutionized by the great English inventors. Inventing ingenious machinery for which Eli Whitney was to gin cotton and Watt to furnish power, Wyatt, Highs, Hargreaves, Arkwright and their contemporaries ushered in the machine age. In volume, the output of the textile industry forthwith grew enormously, and the example it set of large scale machine production spread quickly to other types of manufacturing.

Hereupon arose a paradox. The industry that ushered in our modern machine era did not keep pace in technical improvements or managerial technique with the other industries which imitated its methods. The American textile industry today, except in size, is not greatly different from the textile industry that the young expatriate Englishman, Samuel Slater, founded in Rhode Island in 1790. True enough, Jenks invented ring spinning and Draper and Crompton improved the loom, but aside from these and a few other exceptions, the industry has attracted appallingly few men of technical genius, and still fewer managers able to apply the principles of scientific management.

Today the industry at large has yet to develop an organized plan for handling research and engineering problems, suffering as it is from the dominance of that cobwebbed system of management which places complete reliance upon a rising price of raw material and a good selling market. Skill in buying and selling raw material, cotton, is usually the determining factor in a plant's prosperity. The textile industry is now the only large industry in the world of which this is true, and herein lies the answer to the often asked question, "Why is the textile industry sick?"

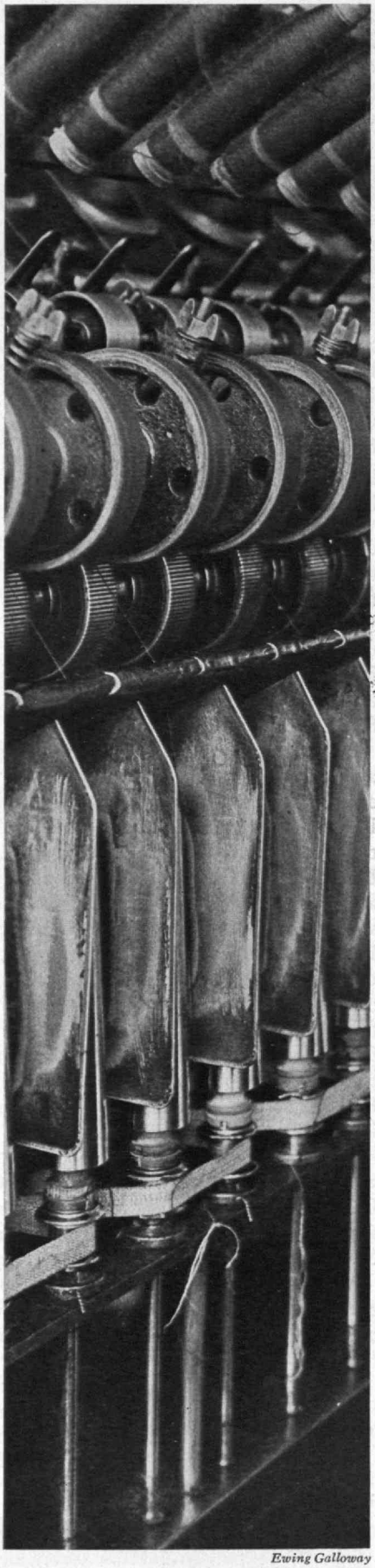
An analysis of this paucity of ability and ideas reveals at once that the structure and organization of a large part of the industry today is such as to ignore the qualities that characterized Arkwright, Jacquard, Crompton and their confrères. It is quite possible to anticipate the protest which such a statement as this will occasion, but when it is considered that the development of the industry has been altogether away from craftsmanship, that it has in large proportion eschewed art and that it has built up no unified supporting organization of pure and applied science, one is inclined to make the statement even more radical and sweeping.

Some one has remarked that New England mill treasurers are born, not made. The divine right of treasurers born to their jobs (and they are



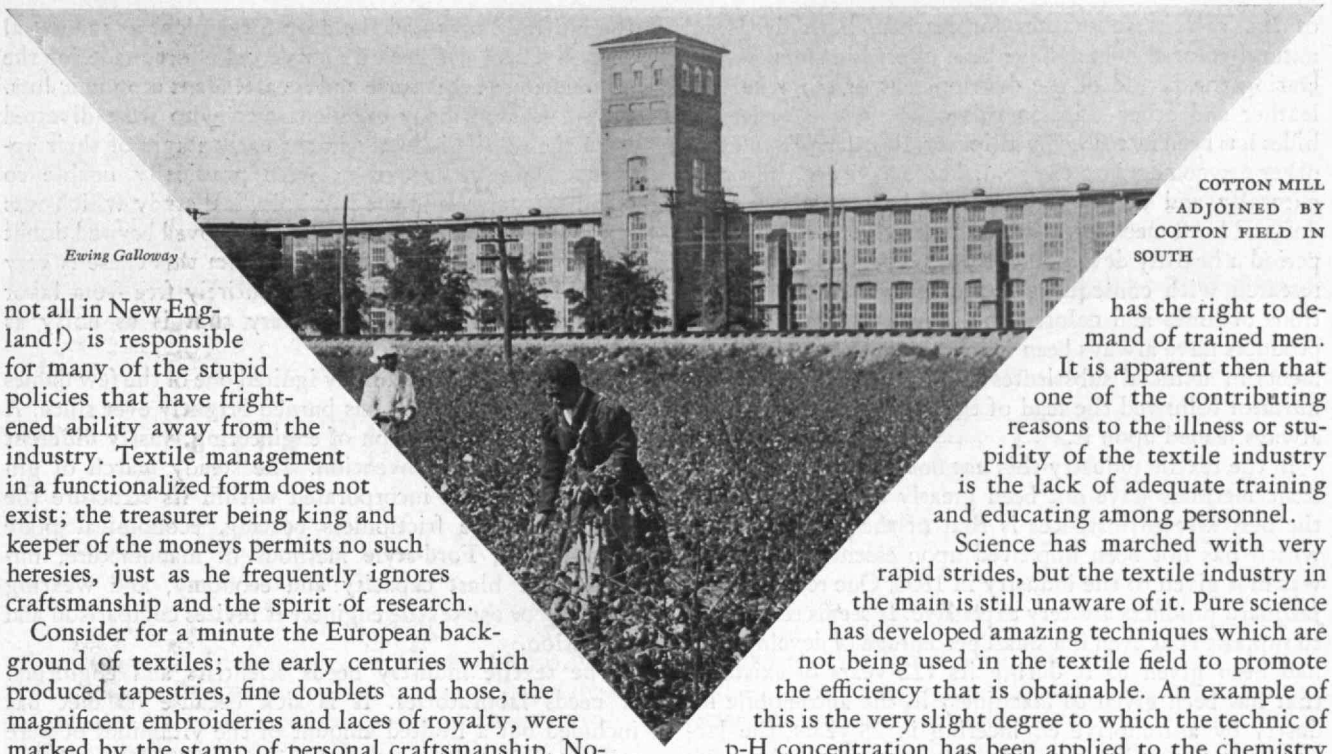
Ewing Galloway

WELL-EQUIPPED TEXTILE TESTING LABORATORY



Ewing Galloway

MODERN SPINNING FRAME IN A WOOLEN MILL



Ewing Galloway

COTTON MILL ADJOINED BY COTTON FIELD IN SOUTH

not all in New England!) is responsible for many of the stupid policies that have frightened ability away from the industry. Textile management in a functionalized form does not exist; the treasurer being king and keeper of the moneys permits no such heresies, just as he frequently ignores craftsmanship and the spirit of research.

Consider for a minute the European background of textiles; the early centuries which produced tapestries, fine doublets and hose, the magnificent embroideries and laces of royalty, were marked by the stamp of personal craftsmanship. Nobody but a simpleton would imagine that the needs of the world today would be satisfied by the same hand production of that period, but even the most casual observer can see that our modern industry is suffering from a lack of craftsmanship.

Back of all these lacks is the training of the personnel. It is to be regretted that such a large portion of time in textile schools, for instance, is spent upon the mere mechanics of cloth structural form and so little time is spent in developing a sense of texture and fine figure. The A. French Textile School of the Georgia School of Technology has already improved its curriculum toward this end and M. I. T. is doing extensive work in the scientific fundamentals of textile engineering. It is not amiss, however, to say that the average textile school has been training good inspectors and foremen, but not engineers and managers who can create and develop. I know of one organization with a world-wide reputation for textile fabrics which has kept careful records of the graduates it has employed from the textile schools. Not a single one of these men has produced even a new fabric or an important new use for a fabric or a marked enhancement in the quality of the fabrics already being made. However useful they may be in filling static positions they do not possess that element which every employer of skill has the right to demand of trained men.

It is apparent then that one of the contributing reasons to the illness or stupidity of the textile industry is the lack of adequate training and educating among personnel.

Science has marched with very rapid strides, but the textile industry in the main is still unaware of it. Pure science has developed amazing techniques which are not being used in the textile field to promote the efficiency that is obtainable. An example of this is the very slight degree to which the technic of p-H concentration has been applied to the chemistry of dyes in the textile industry. Yet in a few places where it has been applied, it has been tremendously valuable. Another example that is almost pathetic is that a whole literature has been written (and all of it proved by laboratory investigation) on the subject of the fastness of fabric dyes. Yet the uninformed textile dyer has made little or no use of it. He has developed few standards and no accurate way of making comparisons. Color in the textile business is judged largely by rule of thumb.

A striking and revealing contrast between the sluggish textile industry and other American industries can be derived from an examination of our leather business. The Morocco process of treating leather was smuggled out of Russia into the United States during the early stages of the tannery development in America. The foundation upon which this process was built was one of highly skilled craftsmanship in which most of the workers had served a sound apprenticeship and were consequently skillful in the general and special requirements of what was in many senses an art. No great lapse of time existed between this event and the extensive adaptation of aniline dyes to the colorization of leather. The increasing prosperity of the American people furnished an extensive market for colored leather articles of all kinds — a market which has never been seriously crippled in spite

Ewing Galloway

of the various substitutes for leather, both dyed and natural-colored, which have been offered in competition. During the period of the development of fancy colored leather and other skins in this country, the variety of hides has been increased by alligator, lizard, and numerous other newcomers into the field. These have been absorbed naturally and their characteristics bent to the market demand both mechanically and decoratively. During this period a healthy development has taken place in tanning research with consequent improvements in the decorations of hides and colors. The improvements in leather products have always been a jump ahead of the improvements in artificial substitutes for it. In other words, the imitator followed the lead of the basic industry and has always leaned upon it.

In the textile industry this has not been true. Even the basic methods have not been greatly improved. One of the best known instances is that of the Jacquard loom which has not been improved upon essentially since it was first given to the industry in 1808. One result is that Jacquard products are very expensive. It seems reasonable to suppose that even if a small percentage of development had been given to it during its 122 years of existence that has been given to machinery in the automobile industry by automotive engineering in 25 years, the Jacquard process today would be fully automatic, from the painted picture to the finished cloth.

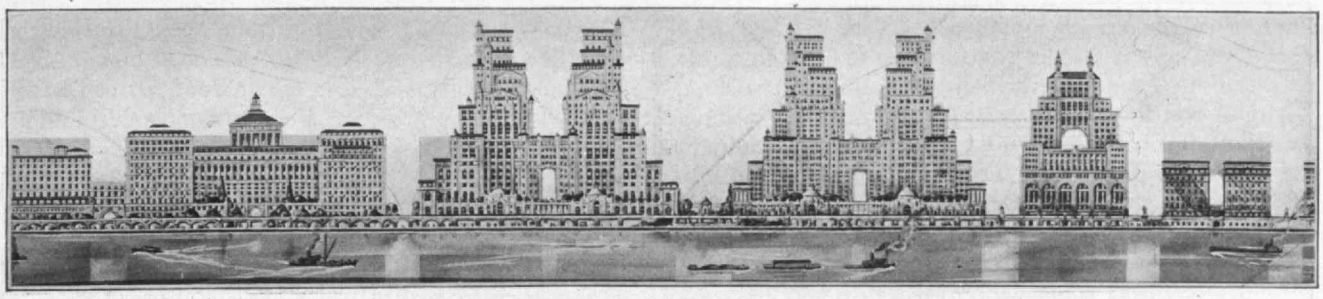
As The Review recently pointed out, the last several years have brought the first serious attempts to eliminate noise from our modern civilization. The refrigeration machine, the oil burner, the automobile, and the new insulated buildings bear witness to definite triumphs in the fight for silence. Again the textile industry is supine. The operation of weaving may compete favorably with the boiler factory and the drop forge plant as industrial crimes. There has been no concerted effort made for the elimination of this curse and its attendant economic loss. I have known many excellent men who were diverted from the textile industry in the early stages of their apprenticeship because they were physically unable to stand the noise, and the psychological study which was pointed out in the February Review proved beyond doubt that the loss in human efficiency from this cause is very great. No industry will ever be entirely free from labor trouble which accepts machinery that is as noisy as present day looms.

The genius of Eli Whitney ignited one of the few flames in the industry which has burned brightly ever since. A modern gin is a triumph of engineering, vastly different from the original invention. The steady march of gin improvement has incorporated within its structure the unit drive, the frictionless bearing, economical plate construction, Ford-style methods of manufacture, improved air blast capacity and economy, and wearing ability. For the textile engineer it invites comparison and emulation.

The textile industry needs scientists and engineers. It needs laboratories. It is sick because its diet has included but a limited amount of the vitamines of pure science. It is sick, too, because it never has been willing to submit to managerial therapy of the kind that good sound economists have developed. The textile industry has hardly discovered scientific management. It is high time that our technical schools supply to the industry men who can bring to it these things. It must get in step with modern business, accept readjustment of wages and hours as right and proper, prohibit over-production, eliminate the waste chargeable (*Continued on page 318*)

Ewing Galloway

BATIK PROCESS OF DECORATION FOR SILK SHAWLS, HANDKERCHIEFS, AND TABLE COVERS



CONCEPTION OF NEW YORK'S EAST RIVER WATER FRONT PREPARED BY FRANCIS S. SWALES FOR THE REGIONAL COMMITTEE

CITIES FIT TO LIVE IN

Cogent Suggestions for the City of Tomorrow, a "Machine à Habiter"

By John Nolen

The City of Tomorrow and Its Planning, by Charles-Edouard Jeanneret Le Corbusier. Translated from the 8th edition of Urbanisme, with an introduction by Frederick Etchells. $7.50. 302 pages. New York: *Brewer and Warren, Inc.*

THE SUBJECT MATTER and illustrations of this volume deserve open minded consideration and wide discussion. It deals vigorously and squarely with one of the most important and difficult problems of modern life; namely, the early re-planning of the central parts of our existing great cities.

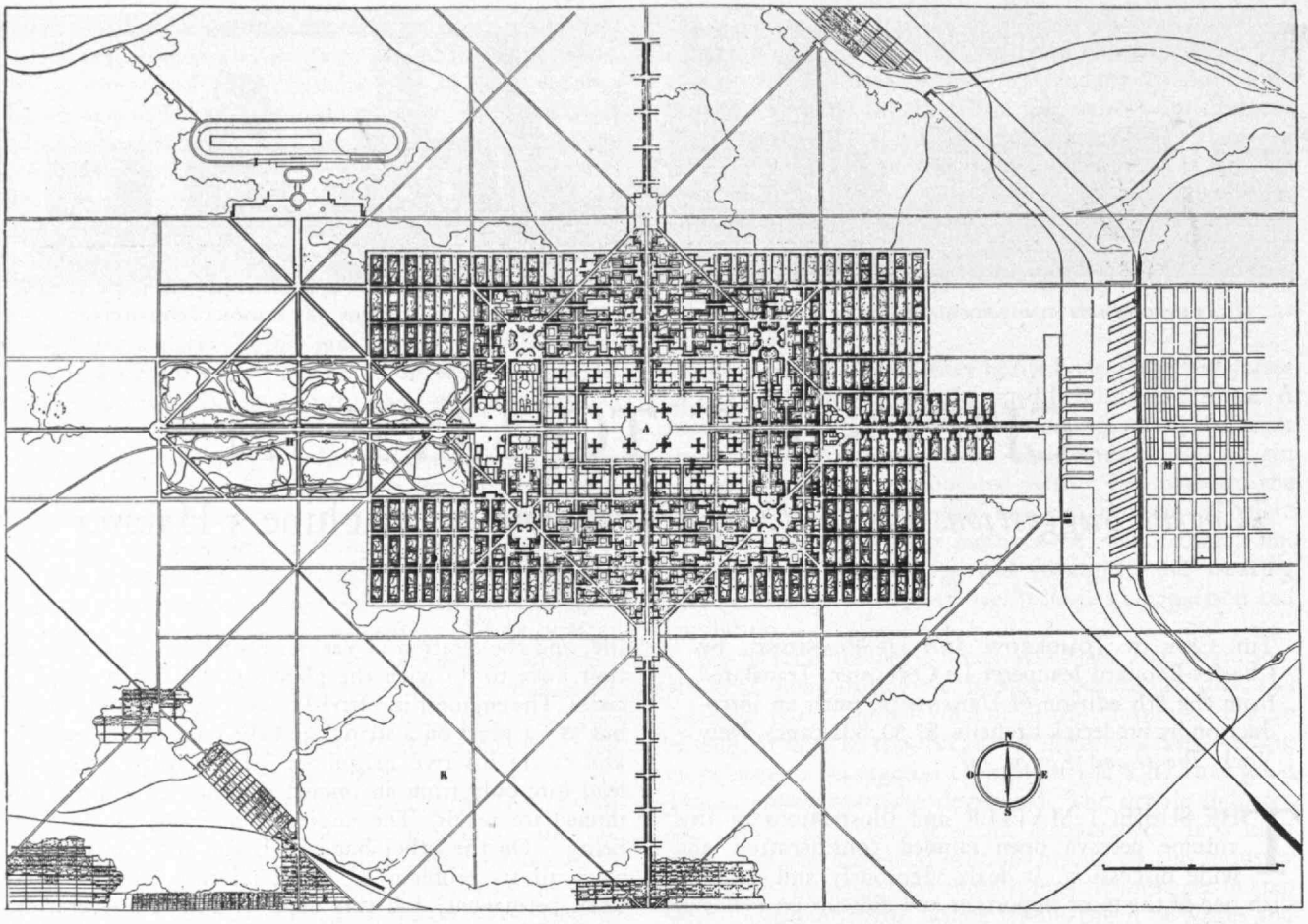
The author, Charles-Edouard Jeanneret Le Corbusier, is a well-known architect in France and Switzerland, a forerunner of the modern school of architects. He began as early as 1914 to exhibit designs in the new style and in 1921 he founded an international review called *L'Esprit Nouveau*. He is a successful practitioner of the art of designing modern buildings, and is recognized as one of the world's authorities in this field. In addition to "The City of Tomorrow and Its Planning," he is also the author of "Towards a New Architecture."

The book presents not merely proposals for a new general order of city layout, a new series of building units, and a new formulation of ideas for traffic; it also discusses a fresh philosophy of modern urban life, and the relation of various professions and agencies that have to do with the planning and construction of cities. The engineer is referred to as a "pearl among men," but as "a pearl on a string, and the only other pearls he knows are his two neighbors." His narrow researches lead him only from an immediate cause to a direct and immediate result. The engineer, he says, is "a fixed being." On the other hand, it is the city's business to solve all its problems in broad relation, and to make itself permanent, and this depends upon considerations other than those of calculation. It is only architecture and city planning that can give all the things which go beyond precise calculation.

Le Corbusier begins by tracing the origin of cities and by discussion of the causes which have led to the present chaotic conditions. He recalls some of the excellent formal town planning of the past, such as Babylon, the Roman colonial towns, Peking, and the great schemes carried out under Louis XIV. These were based on geometry, as his schemes are, and were predetermined "layouts." They were in sharp contrast with the European mediaeval towns and many of the older American cities with narrow, winding streets. L'Enfant's plan for Washington probably has his approval.

PROPOSED DEVELOPMENT OF A CIVIC CENTER IN NEW YORK, A PART OF THE CITY'S REGIONAL PLAN

The proposals, it should be made clear, are not intended for country towns or even



LE CORBUSIER'S "CONTEMPORARY CITY." HEAVY BLACK LINES REPRESENT THE AREAS BUILT UPON, EVERYTHING ELSE BEING STREETS OR OPEN SPACES. DISTANCES ARE SHORTER THAN IN CITIES OF TODAY FOR THE DENSITY IS GREATER. KEY: A. — STATION; B. — SKYSCRAPER; C. — HOUSING BLOCKS WITH "SET-BACKS;" D. — HOUSING BLOCKS ON THE "CELLULAR" SYSTEM; E. — GARDEN CITIES; G. — PUBLIC SERVICES; H. — PARK; I. — SPORTS; K. — PROTECTED ZONE; M. — INDUSTRIAL CENTERS. MAP REPRODUCED FROM BOOK UNDER REVIEW

for small cities. He deals with strictly urban conditions, and his main thesis is that a vast and complicated machine, such as the modern great city, can only be made to function on a basis of order. The aim should be, first of all, at efficiency, but not at efficiency alone.

Le Corbusier advocates a bold and drastic reconstruction of the modern city, following in general the principles that have already been applied successfully to other modern construction — to single buildings and the automobile, for example. Two imposing schemes are presented in detail for the reconstruction of a great modern city: one he calls the "Voisin" scheme for the center of Paris: and the other his more developed plans for a new "City of Three Million Inhabitants," which might readily be extended to even greater numbers. The basic principles of his plan are these:

1. *We must de-congest the centers of our cities.*
2. *We must augment their density.*
3. *We must increase the means for getting about.*
4. *We must increase parks and open spaces.*

The whole subject, so far as physical planning is concerned, he narrows down to three essential items: Buildings, Open Spaces, and the Street.

Buildings

The skyscraper would be the unit for the business and hotel district. His plan provides for 24, with facilities for 400,000 to 600,000 occupants, and a density of 1,200 to the acre. This greater density as compared to Paris (146) and London (63) would shorten distances and insure rapid communication. They would be 60 stories in height, cruciform in plan, with no internal wells or courtyards, and set at great distances from one another, surrounded by large open spaces or parks; and they would be used entirely for business and commercial purposes, and not for residence. The skyscrapers would occupy only 5% of the ground in the section in which they were located. At the base and all around each would be an open space of about ten acres, to be occupied by public buildings, theatres, museums, and so on, together with restaurants and cafés, all of which would be relatively low in height.

The residential blocks would employ the principle of "mass production." They would be of two main types. The first with setbacks, and a quite open development, six stories of double height, with no internal wells or windows, looking on either side on to large parks and gardens, with a density of 120 inhabitants to the acre. The buildings in the "setback" section would occupy only 15% of the ground in this zone. The balance would be

for gardens, playgrounds, and so on. The other residential blocks would be on the "cellular" system, with a slightly greater density, looking out on extensive parks, and having no inside courts or wells.

Open Spaces

In the contemporary city probably over 50% of the total area would consist of open space devoted to playfields, gardens, and parks, exclusive of the wide roadways. The roadways and the playfields, parks, and gardens together would make nearly 90%. In other words, only about 10% of the total area would be actually occupied by important buildings of the skyscraper or apartment house types. Moreover, these playfields and parks would be immediately adjacent to the apartments in which the people would live.

In addition to the open space provided around buildings, there would be "the protected zone" immediately outside the built-up city, which would be the property of the city, and upon which all building would be prohibited. It would be an area reserved for the growth of the city, to be laid out by the municipality, but would consist for the present of woods, fields, and sports grounds. The forming of a protective zone by continual purchase of property in the outskirts of the city is one of the essential features. Repeated emphasis is placed upon the necessity for planting and growing large trees in all the open spaces surrounding building groups, not merely for their comfort and beauty, but also as affording a means of bringing buildings into scale with mankind.

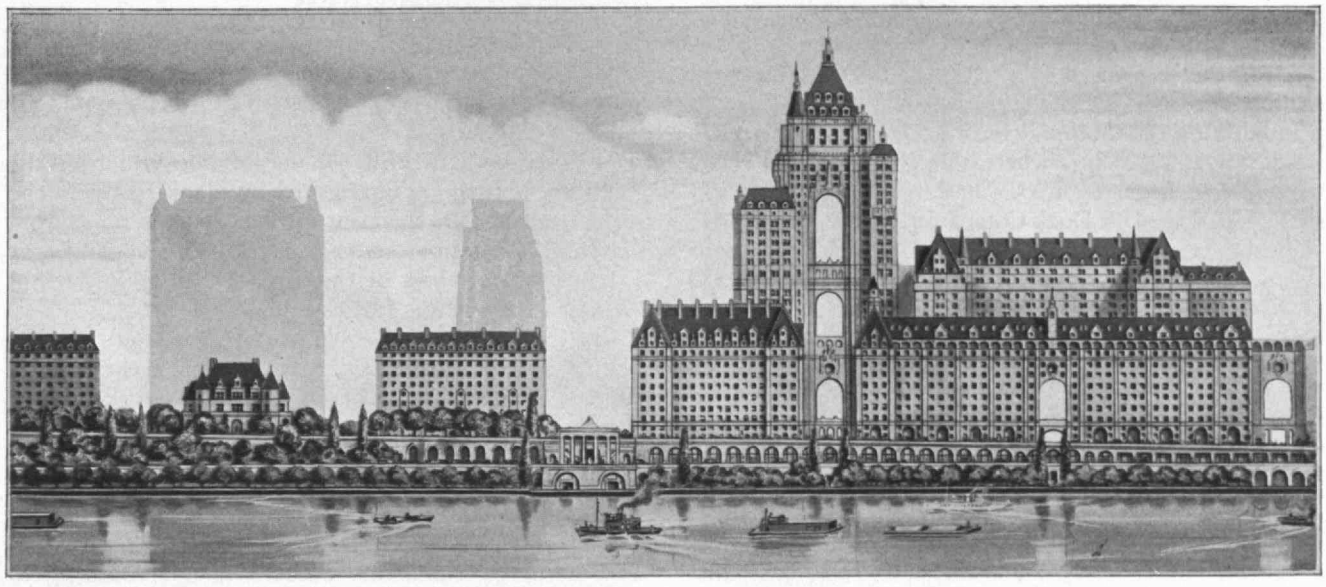
The Street

Le Corbusier protests with vigor against the narrow street, a mere "corridor." He looks upon the city street as a sort of spread-out workshop which is not merely for circulation, but should insure to abutting buildings sunlight and air, easy access, and a provision for the multitude of services underground and on the surface which modern life requires. On the street problem he quotes with good effect from the excellent reports of the Regional Plan of New York and its Environs. This ambitious and optimistic reformer would make, somehow, I know not how, an entire reconstruction of the streets in the modern big city, or in large sections thereof. Streets would be greatly reduced in number, occurring at normal intervals of 1,200 or 1,800 feet, with various expedients for the separation of one form of traffic from another — heavy goods traffic, lighter traffic, and fast through traffic. It would all be centralized in a mammoth central station. There would be five or six street levels in use — two or three below ground, one at the ground level, and one elevated, the latter being the great arterial roads for fast traffic, 300 feet or more in width. The number of existing streets would be diminished by two-thirds, and the number of crossings would be correspondingly reduced. The tramway would be eliminated from the surface in the heart of the modern city.

"The street," writes the author, "is a traffic machine; it is in reality a sort of factory for producing speed. . . . We must create a type of street which shall be as well equipped in its way as a factory. If once we consider seriously the problem of the city and arrive at a solution, our existing great cities will be shaken to their foundations, and the Age of Town Planning on a noble scale will have begun."

The final chapter of the book, the one entitled "Finance and Realization," is not convincing, and perhaps could not be expected to be. However, for city building, no matter how sound the technical ideas may be, there must also be an approved program for legal procedure and the inevitable financing. Briefly stated, there must be —

1. A clear demonstration of the economic justification, not narrowly but broadly conceived. This is difficult, but, I believe, quite possible. *(Continued on page 320)*



THE REGIONAL PLAN COMMITTEE OF NEW YORK HAS PROPOSED THIS MONUMENTAL RAILWAY TERMINAL TO BE LOCATED ON THE HUDSON RIVER BETWEEN FIFTY-NINTH AND SEVENTY-SECOND STREETS. SEE PAGE 296

THE TREND OF AFFAIRS

Welded Ship

STEEL STRUCTURES, welded instead of riveted, are rapidly becoming more numerous as was pointed out in The Review for March. It is now possible to announce that the first all-welded self-propelled American steamship has undergone successful sea tests. The S. S. *Carolinian*, built by Richard E. Smith in the yards of the Charleston Dry Dock and Machine Company, steamed beyond Fort Sumter Light, on March 8, making 11.5 knots an hour. The report is that the ship responded to the helm like a yacht and that vibration was surprisingly absent.

A saving of 20% in weight and 25% in construction cost was accomplished by welding instead of riveting, according to the dry-dock officials. These percentages compare favorably with the saving in weight obtained by welding a building instead of riveting it. It has been demonstrated before the American Institute of Steel Construction that steel floors constructed by the arc-welded battle-deck method permit an increase of 25% or more in the height of a tall building without increasing the load on the foundations. (See the story below.)

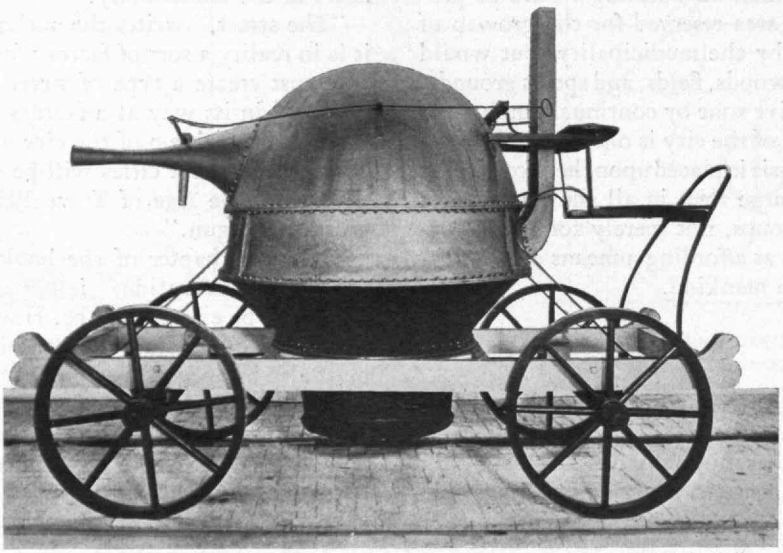
In building the *Carolinian* only 8,000 pounds of electric welding was necessary, whereas 28,000 pounds of rivets would have been required. Charles V. Bordkin, Vice-President of the Dry Dock Company, asserts that she has a much greater cargo capacity due to the absence of rivets and bolts and by virtue of the structural form made possible by welding. The two German liners, *Bremen* and *Europa*, are partially welded.

Aluminum Buildings

BEAMS of heat-treated aluminum alloy, tested in the research laboratory of the Aluminum Company of America, have been found to be capable of supporting a 130% greater load per pound of weight than steel beams of corresponding design. For example, a 10-inch aluminum beam carried 2.32 times as much load per pound as a 10-inch steel beam.

This result became known through research undertaken to develop specifications as a standard for designers who may consider the use of aluminum for structural purposes. The tests were carried out with beams 10.5 feet long, the various members ranging from five to ten inches in depth. The plates were rolled, and all angles, channels, and I-beams extruded. All members were fabricated with steel rivets, but, since the test, a technique employing hot aluminum alloy rivets is said to have been satisfactorily worked out.

One's imagination might well run riot in picturing the myriad uses to which structural members of light metals could be put. The tendency to raise the clouds to make room for still higher buildings might well be cited, for the load imposed upon foundations of the present great structures built of steel and heavy masonry is a problem now causing concern in many quarters. And one may be permitted to visualize the almost limitless possibilities for beauty of design in bridges built of aluminum. But adequate data on the cost of aluminum compared with steel, particularly with welded steel, is meagre. Specifications should be available soon.



Ewing Galloway

STEAM "ROCKET" ENGINE DESIGNED BY SIR ISAAC NEWTON IN 1680 BUT NEVER BUILT UNTIL RECENTLY. HIS IDEA WAS THAT STEAM RELEASED FROM THE BOILER THROUGH THE JET WOULD PROPEL THE VEHICLE

Another Gap Filled

ELEMENT NUMBER 87, one of two which at the present time are represented by blank spaces in the formal periodic arrangement of elements that range from one to 92, has been located by Dr. Fred Allison and Edgar J. Murphy, members of the Department of Physics of Alabama Polytechnic Institute.

In a study of lepidolite, a form of mica, and polucite, a mineral which consists chiefly of the elements of caesium, aluminum, and silicon, these two workers have detected effects which indicate the presence of the unknown element. The tentative name, eka-caesium, has been assigned to it.

Element 87 is classified as one of the alkali family. It lies between niton, Number 86, also known as radon, and radium, Number 88. Because of its proximity to these two, it has been generally supposed that the hitherto missing element may be extremely radioactive.

This new element takes its place in a group of elements which are identified only by means of their lines in the x-ray spectrum. The one remaining element that still awaits discovery is Number 85, which lies in the iodine classification.

Further research will be undertaken in an attempt to extract the new element from the minerals in which it has indicated its presence.

Element 87 is the second to be identified by American scientists. The first was Number 61, which was found by Dr. B. S. Hopkins, who named it illinium in honor of the University of Illinois where he carried on the research that resulted in its detection. Number 72, hafnium, another of the "post-war" elements, was discovered in 1923, by the Danish scientists, Coster and Hevesy, who gave it the Latin name for Copenhagen. Two years later Dr. Walter Noddack of the University of Berlin, working with two research assistants, discovered Elements 43 and 75, which were given the names of masurium and rhenium. Dr. Hopkins found Number 61 in 1926.

Spraying Quartz

VISITORS who properly time their call at the Thomson Laboratory of the General Electric Company at Lynn, Mass., may observe the spectacular process of making mirrors by subjecting a block of melted quartz sand to a shower of melted, powdered silica glass (quartz). The powder, melted by a roaring oxygen-hydrogen torch at a temperature of 3000 degrees, is squirted upon the quartz sand in order to obtain a mirror surface which may be ground to the delicate contours required for use in telescopes.

This process, developed by Dr. Elihu Thomson, Non-Resident Professor of Electrical Engineering at the Institute, is to be used for making the gigantic 200-inch telescope mirror required by the great telescope that the California Institute of Technology plans to set up to supplement the work of the Mt. Wilson Observatory.

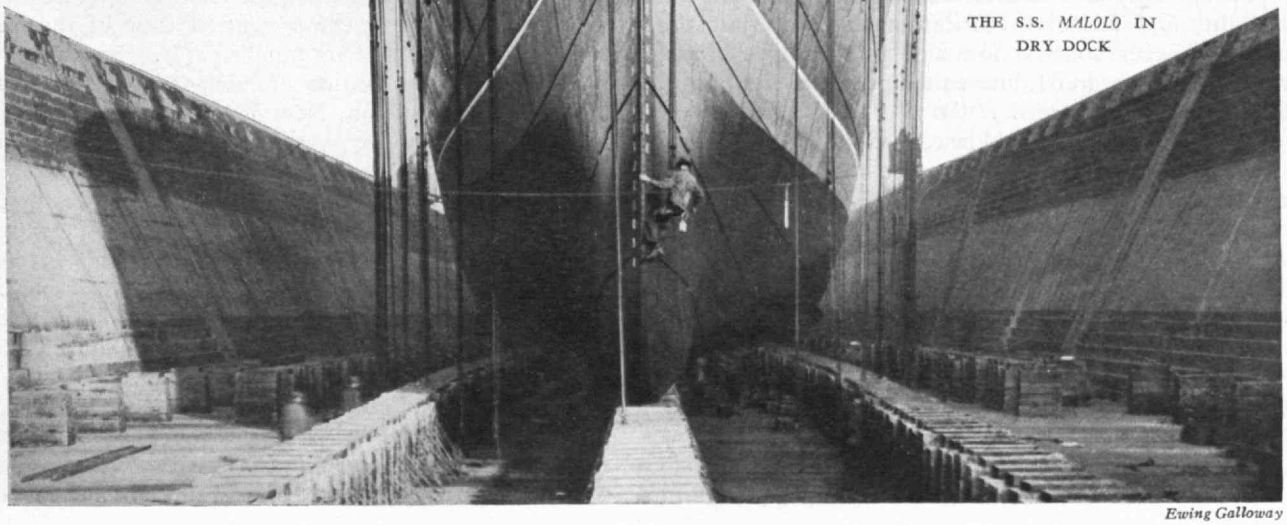
If a mirror with the diameter of 200 inches were constructed of glass, the variations in its form induced by temperature would be so serious as to produce bad distortions in the image which it would give. Quartz remains practically constant under all ordinary temperatures. Consequently, a mirror made of it would be easier to grind and to use upon completion.

This successful solution of the problem of providing a rough bubble-filled mass of melted sand with a surface layer of pure glass-like fused quartz or silica glass is a major contribution to optical science. It is but one more in a long line of brilliant scientific achievements made by Dr. Thomson. Adumbrated they are:

1. Discovery of the laws governing the electric arc
2. Invention of the arc light dynamo and regulator
3. First to utilize magnetic field to move an electric arc
4. Discovery of so-called alternating current repulsion phenomena, the basis for a.c. motors
5. Building of high-frequency dynamo and transformer
6. Invention of electric welding by incandescent method
7. Invention of electric watt-hour meter
8. First to make stereoscopic x-ray pictures.

More Helium

SINCE HELIUM (Greek ἥλιος, sun), next to hydrogen the lightest gas,



THE S.S. *MALOLO* IN DRY DOCK

Ewing Galloway

was discovered on the sun in 1868, diligent search has been made of our own planet to find it in quantities sufficiently large for use in airships. The only natural sources yielding large amounts have been found in the United States, notably in Texas, and now comes word that it is obtainable from natural gas in southeastern Colorado, south of Thatcher. F. F. Hintze, of the University of Utah, who reports the new source, states that the natural gas contains 7% of helium, a much higher percentage than has yet been found anywhere.

Previously, the chief sources of helium have been at Amarillo in the Texas Panhandle and at Dexter, Kans. Other fields have been found in Canada near Hamilton, Ontario, and Calgary, Alberta, but these sources are small in comparison to those in the United States. In France, mineral springs at Mazières and Santenay yield small amounts as does a spring at Bath, England. English chemists are now striving to obtain it from some of the helium minerals, such as monazite, thorianite, euxenite, cleveite, fergusonite, bröggerite, and samarskite. Monazite sand from India seems to yield about one cubic centimeter of helium per gram of sand.

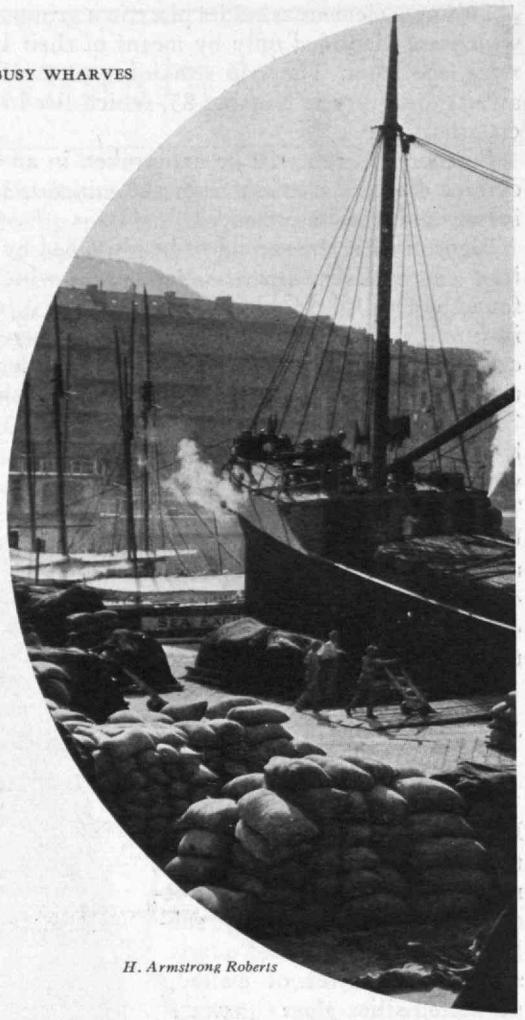
Excommunicating Windows

MENTION was made in the March Review of the possibilities for windowless buildings which, in the opinion of competent architectural and engineering critics, are both probable and desirable. To the chorus of approbation must now be recorded the predictions of Dr. Zay Jeffries, a metallurgist of Cleveland, made before the American Institute of Mining and Metallurgical Engineers. "The Future of the American Iron and Steel Industry," was his chosen subject for the Howe Memorial Lecture, given annually to commemorate the attainments of Henry Marion Howe, '71, the John Fritz Medalist of 1917.

The window, Dr. Jeffries arraigned, as "not always effective in letting in light. The room is usually either too dark or too light. It is a source of drafts and usually makes for uneven temperature. It lets in the rain, snow, dust, and insects. It is easily broken and often hard to open and close. It increases fuel bills and often foils privacy, and in some cases it provides a too ready means of exit in case of a stock market crash. It also provides a popular burglar entrance. Artificial light, artificial sunlight, and artificial ventilation would permit the use of cheaper construction and completely enclosed rooms, free from drafts, uneven temperature, city noises, and other disturbances. . . ."

Windowless rooms would be cool in summer and warm in winter. They would release much steel now required for building construction, but Dr. Jeffries finds no basis for the fear of an iron famine, though the production of iron in the United States has increased tenfold since 1885, during which interim the population has doubled. "It can be stated with certainty that there is ample iron in the earth's crust for all possible future needs" and America, he believes, has enough deposits of rich iron ore, relatively free from objectionable impurities, geographically accessible and capable of being cheaply mined, to last another generation. Beyond these remain unlimited quantities of lower grade deposits.

BUSY WHARVES



H. Armstrong Roberts

"Noble Terminal"

IT WAS assumed that the completion of the Grand Central Terminal twenty years ago, followed by that of the Pennsylvania Station in 1913, would settle New York's railroad troubles for a long while. But the concept of the "Regional Plan of New York and Its Environs," disclosed last month as a series of projects for the development of the city's waterfronts, includes an imposing railway terminal giving upon the Hudson River between 59th and 72d Streets, the present location of the New York Central's 60th Street freight yards.

With all her congestion of humans and their traffic difficulties and hubbub, New York, it seems, is not so badly off as regards her waterfront, for about half of her 29-mile shoreline is still free from commercial usage. Ten miles of it are now devoted to park purposes.

Because of what has already taken place in the way of a comprehensive development of Manhattan's littoral, as contrasted with the existing unsightliness and inaccessibility of the neglected portions, the Regional Plan advances its suggestions as a safeguard against further despoliation rather than as a scheme to be undertaken in its entirety and followed precisely.

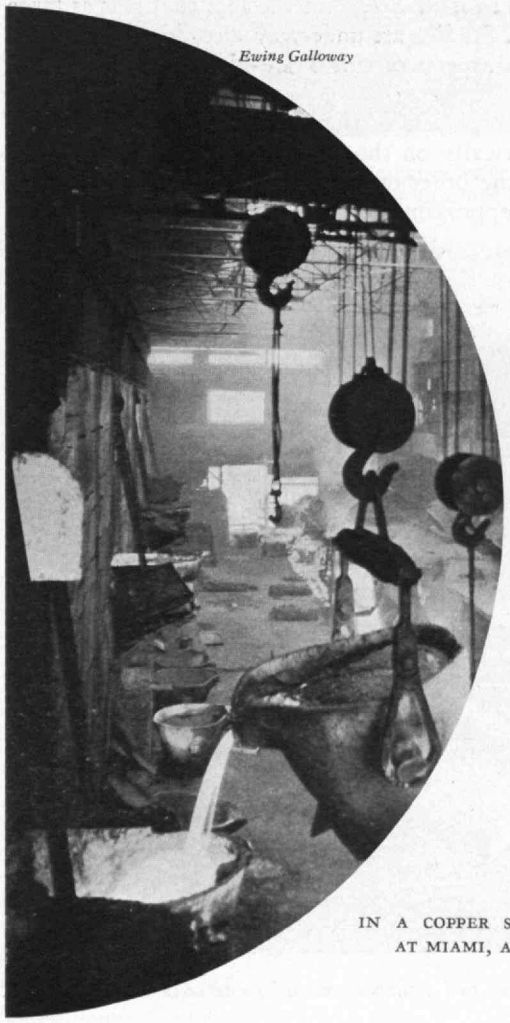
The studies have been carried out under Thomas Adams, a Special Lecturer in the Institute's Department of Architecture, as General Director of Plans and Surveys

and Mr. Adams will continue as a consultant to the Regional Plan Committee. The design (on page 293) showing the type of terminal which might be constructed is by Francis S. Swales, consulting architect.

"It does not need much imagination," says the Plan's report, "to see how valuable it would be to have a new center on the edge of the Island, overlooking the wide expanse of the Hudson, directly connecting with the great spaces of New Jersey, directly served by the main line of the New York Central, and linked up with approaches to the Battery that are independent of the congested streets in the center of the Island. . . .

"The building of a new station over the 60th Street yards might at present be out of harmony with the policy of the railroad company in the development of its freight service, but undoubtedly from the point of view of the ultimate interests of the company and of the community, the greatest and most inspiring opportunity for New York lies in setting up a monumental station between 59th Stteet and 72d Street, such as Mr. Swales has attempted to visualize. . . . Here there are the same opportunities of obtaining increased values as were realized about Grand Central Station after electrification.

". . . If one stands today on the top of a building overlooking the 60th Street yards, he will see almost exactly the same kind of conditions that existed in the Grand Central terminus before 1905. The only differences are that the destruction of property values by the steam railroad has been lessened to the north by the existence of Riverside Park, but has continued south of 60th Street, and that the 60th Street yards have a natural setting which the Grand Central or the Pennsylvania Stations never had. These two latter terminals have, since they were improved, created values for the railroads and the public which have made them splendid investments. But the greatest opportunity for a really noble terminal in Manhattan lies on the Hudson River front. . . ."



Ewing Galloway

IN A COPPER SMELTER AT MIAMI, ARIZ.

Flying Miles

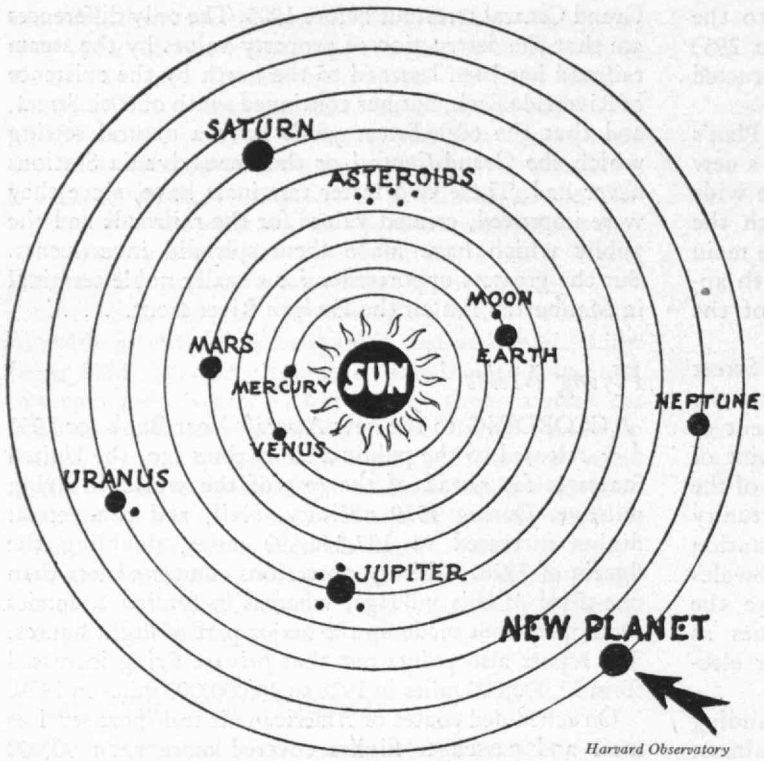
ACCORDING to the new Aircraft Year Book for 1930 released to the public a short time ago, the United States is far ahead of the rest of the world in flying mileage. During 1929 military, civil, and commercial flights increased to 197,546,590 miles, doubling the figures of 1928. Military operations comprised less than one-third of this mileage, whereas in foreign countries such operations made up the major part of flight figures. The report also points out that private flying increased from 12,000,000 miles in 1928 to 25,000,000 miles in 1929.

On scheduled routes of American air transport services mail and passenger flights covered more than 90,000 miles every 24 hours. The mail poundage for 1928 doubled to 7,096,930 in 1929, while passenger transportation tripled to 165,263 persons. This past year has also brought reduced passenger rates on the major air transport lines, dropping from 10.6 cents per mile to 7.8 cents. Although the number of air transport operators in scheduled service decreased from 32 to 27, due to consolidations and elimination of duplicate lines, the number of planes in service jumped from 297 to 619. Twenty-seven transport lines averaged eight men employed on the ground for every pilot in the air.

The tremendous increase in air mail service without a corresponding increase in the number of airways is attributed to the added night flying. One report indicates that one American line gained more mileage at night than the total mileage of all scheduled night operations in Europe. Quoting directly from the report: "Scheduled transport lines were flying one-third of their 90,000 miles every 24 hours between dusk and dawn on lighted airways, providing night service unparalleled in the world." In passenger miles also the United States unquestionably leads the world, since our most heavily traveled routes are considerably longer than those of Europe. Of the 40 new routes listed by the Department of Commerce in 1929, 24 are used exclusively for passenger service.

The approval of 80 large corporations, signified by authorizing their employees to travel by air, has had a decided influence on air transport propaganda. The transition from corporation effort to group control, and greater public support resulting in a sounder financial basis account for the almost phenomenal expansion of lines.

The recent announcement by Fokker Aircraft Corporation that the sale of airplanes may now be made on the deferred payment plan — one-third down and the balance in twelve equal payments — will make purchases of



ORBIT OF THE NEWLY DISCOVERED TRANS-NEPTUNIAN PLANET

planes by transport companies and individuals much more feasible. With adequate terminals now provided, schedules timed with water, rail, and bus transportation, and technical problems, such as fog flying, radio communication, radio beacon development, and radio direction-finding gradually being solved, there is predicted an increasing acceptance of air transportation during 1930 and thereafter.

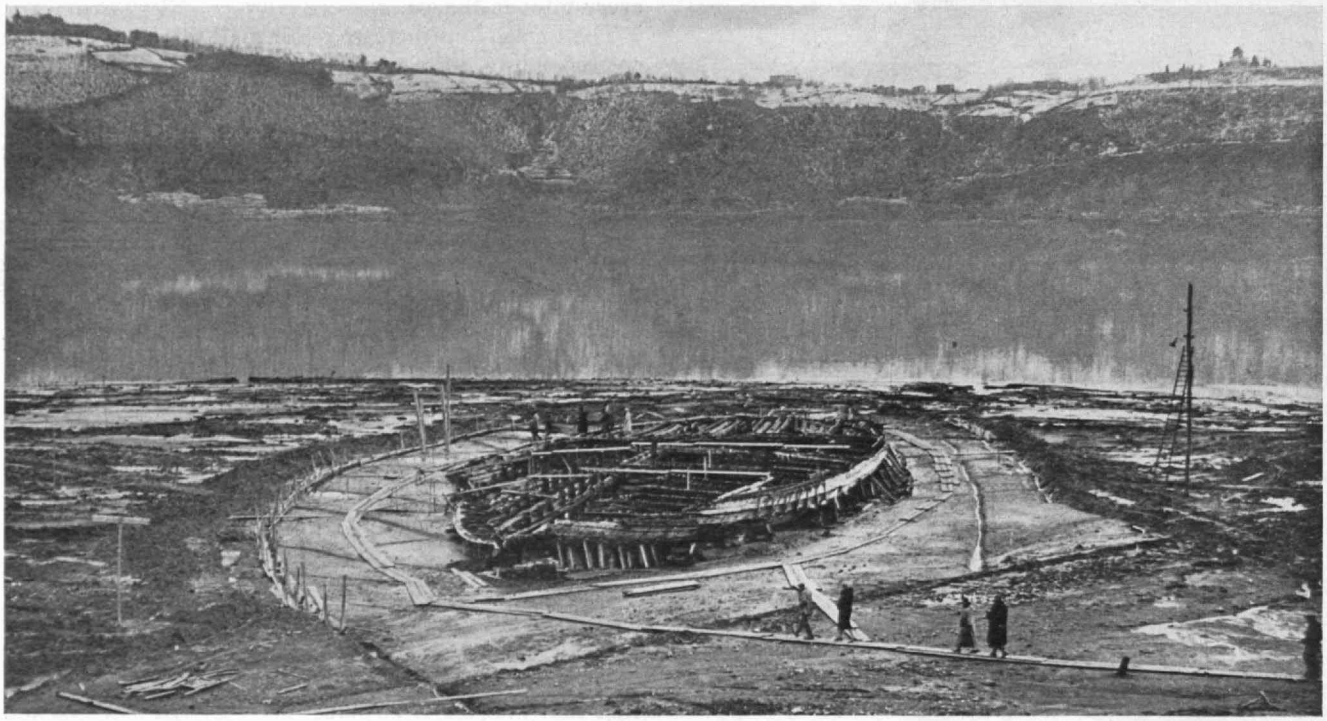
Planet Number 9

ANOTHER PLANET has swum into human ken and Neptune loses its distinction of marking the frontier of the solar system. This addition to the retinue of the sun, long suspected, was fittingly announced on March 13, the birthday of the late Dr. Percival Lowell (1855–1916) who mathematically predicted it in 1914, and founded the observatory at Flagstaff, Ariz., where it was finally discovered last January 21. Dr. Lowell was, from 1908 until his death, Non-Resident Professor of Astronomy at Technology.

The discovery, the first since 1846 and the third in historical times, consisted in photographing the planet through an extremely delicate lens, designed and used in accordance with a mathematical theory which pointed the way. It was a brilliant triumph for the scientific method as well as for American astronomy. The astronomers who participated in the discovery are C. O. Lampland, E. C. Slipher, J. C. Duncan, K. P. Williams, E. A. Edwards, and T. B. Gill.

These men estimate that the new planet, yet unnamed, is 45 times as far from the earth as the earth is from the sun, but they have not yet determined its size beyond the fact that it is as large as the earth. Studies are underway already to determine the physical aspects of this Trans-Neptunian planet.

THE eight planets of the solar system, pictured diagrammatically on the page, that have hitherto been known, in the order of their proximity to the sun, are (figures are approximate):



P. & A.

UTILIZING AN OLD ROMAN TUNNEL, ITALIAN ENGINEERS HAVE DRAINED LAKE NEMI OF "GOLDEN BOUGH" FAME AND UNCOVERED CALIGULA'S GALLEY, SHOWN HERE

Underwood and Underwood

PILOTS AND PLANE OF THE GERMAN AERIAL WEATHER BUREAU. IN THE FOREGROUND, ATTACHED TO THE PLANE, IS A BAROGRAPH FOR RECORDING WEATHER CONDITIONS BETWEEN ALTITUDES OF 500 AND 7000 FEET

	Mean distance from sun	*Diameter*
Mercury	36,000,000 miles	300 miles
Venus	67,200,000	7,500
Earth	92,900,000	8,000
Mars	141,500,000	4,200
Jupiter	483,300,000	86,000
Saturn	886,100,000	72,000
Uranus	1,782,800,000	30,000
Neptune	2,793,500,000	32,000

Six of these were known to the ancients, but it has taken 3,000 years to bring the total up to nine. Uranus was discovered by Sir William Herschel on March 13, 1781, just 149 years prior to the announcement of this latest one. In 1846 Neptune was added to the list by the independent work of Leverrier and Adams. Its discovery came as a result of the mathematical work inspired by the unexplained irregularities in the motion of Uranus. It was similar unexplained perturbations in the orbit of Neptune that gave Dr. Lowell a hint. From time to time during the past half century various astronomers have attempted to repeat the feat of Leverrier and Adams. "Flammarion," says Dr. Hector MacPherson in his "Modern Astronomy," published in 1926, "computed the possible orbit of the [then] hypothetical body, and Lowell and W. H. Pickering ['79] assigned its elements and even its possible place in the sky. . . . The balance of evidence is on the side of the view . . . that Neptune is the most distant member of the Sun's family." No doubt Dr. MacPherson deeply regrets now that cautious bit of skepticism. Perhaps the achievement of Dr. Thomson in making quartz mirrors as described on page 295 will reveal still other planets.

The word planet is derived from the Greek word meaning wanderer and it was first applied by the ancient Ptolemaic or geocentric astronomers. In the modern sense it is applied to the dark and opaque bodies which revolve about the sun. In its wider sense it includes the satellites attendant on the greater planets. Of these secondary planets, Neptune possesses one, Uranus four, Saturn nine, Jupiter nine, Mars two, and the Earth one.

Aeronautical Shows

NEW YORK and St. Louis have shared honors this year in sponsoring important aeronautical shows which have vied with the automobile shows in attracting public attention. The attendance at the New York Show was estimated as half again as large as it was last year and the St. Louis Exhibition was so popularly received that it left no doubt about the public interest in aeronautical developments.

The New York Show was primarily an exhibition of airplanes and aeronautical equipment, whereas those in charge of the St. Louis Exhibition gave the manufacturers

WILLIAM H. BASSETT, '91, RECENTLY ELECTED PRESIDENT OF THE AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS. HE IS TECHNICAL SUPERINTENDENT AND METALLURGIST OF THE AMERICAN BRASS COMPANY

an opportunity to discuss educational, engineering, and transport problems pertinent to the sound development of the industry. One of the principal speakers at the educational meetings was Edward P. Warner, '17, — former Assistant Secretary of the Navy for Aeronautics — who said, "The field for graduates in aeronautical engineering will become smaller as the saturation point nears and it is important that we do not encourage so large a number of students to take specialized aeronautical engineering courses that they are unable to find a permanent place in the industry. The universities and colleges should devote their major attention to giving aeronautics proper treatment in regular courses already established, rather than in setting up new schools and highly specialized curricula. . . ."

Non-Corrosive Steel

WHEN the French Academy of Science met in Paris in 1797, Louis Nicolas Vauquelin, a brilliant young French chemist who rose from the humble station of an apothecary's apprentice to become the associate of the great Anton François Fourcroy, announced that he had isolated a new metal. He had produced it, he said, from a Siberian mineral, lead chromate, and found it amazingly hard, of lasting, brilliant lustre, and of high melting point. Neither he nor his scientific associates in that meeting 133 years ago dreamed, however, that Vauquelin had discovered chromium.

Out of Vauquelin's discovery has come the development of non-corrosive steel, with characteristics which make it possible and very desirable for purposes unthought of a few years ago. Thus history is repeating itself in the use of metal after the manner of craftsmen of the past whose skill and artistry has not to this day been exceeded. With new tools and new methods we now enter the era of nickel-chromium steels, which, because they are non-corrosive and retain the brilliant white lustre of platinum indefinitely, can be adapted for innumerable uses, both decorative and practical. These new steels are being used in a striking manner for ornamenting the façades of modern buildings; they have been adapted for furniture, and in the field of engineering, for structural purposes where their non-corrosive properties give them great value in permanent construction.

Tons of non-corrosive steel reinforcing bars have been used in the work of strengthening the ancient dome of St. Paul's Cathedral in London. The new steel is expected to have a wide use for window frames in modern buildings, and it is quite likely that it will find a new field of usefulness in ship construction, for neither salt nor fresh water have any corrosive effect upon the alloy.

Chromium is obtained from chromate ore, which belongs to the same group as molybdenum, tungsten, and uranium, and is found in various parts of the world. Chromium is harder than the hardest steel, and than many of the gem stones, even approaching the ruby and sapphire. This quality, together with its great resistance to corrosion and high temperatures, and high reflectivity, is a characteristic which gives it a wider application than any other metal.

Contrary to popular belief, chromium is not a rare metal. The ore from which it is obtained is found in large quantities in many parts of the world, but because of cheap labor 70% of the supply comes from Africa. The ore is also found in the western United States, in India, and New Caledonia. In 1926, for instance, the world production of chromium was 150,000 tons compared with 7,000 tons of tungsten, 50,000 tons of nickel, and 1,800,000 tons of copper. Under x-ray analysis part of chromium resembles silicon while part has the appearance of magnesium. The world's supply of the ore exceeds that of copper, and 45% of the chromium production is used in alloys. Much is also used in plating processes.

Rain, snow, sea water, changes in temperature, oil, and many acids have no effect upon it, and it retains its brilliant lustre indefinitely. It is being employed as a plating for yacht and ship fittings subject to the corrosive action of salt water. It is likewise used for plumbing fixtures, electrical household apparatus, small motors, and jewelry.

The stainless steel, now widely used in the manufacture of cutlery, is an alloy of 13% chromium and iron. This alloy is unaffected by fruit juices or gases which quickly discolor or corrode ordinary steel.

In the plating process chromium usually is applied over a coating of nickel, although it is claimed it can be plated directly on most of the metals in use. It has been found very satisfactory for use as a reflecting surface in automobile headlights, for its brilliant platinum-like lustre is undiminished after long use.

BOOKS

Ars Medendi

MEDICINE: ITS CONTRIBUTION TO CIVILIZATION, by Edward B. Vedder. $5.00. ix+398 pages. Baltimore: *Williams and Wilkins.*

MEDICAL LEADERS: FROM HIPPOCRATES TO OSLER, by Samuel W. Lambert and George M. Goodwin. $5.00. 331 pages. Indianapolis: *Bobbs-Merrill Company.*

THE STORY of the many notable achievements of modern medicine is of direct concern and interest to all of us. The prodigality of books of varying degrees of competency, and unfortunately also of mediocrity, on the subject bears witness to the fact. These two books are, however, noteworthy in the field, not only for their skillful, accurate, and well-ordered presentations, but for the fact that neither is marred by flippant attempts at philosophy, efforts which in certain other popular books on health and its makers have been more often banal than otherwise.

One of these books is concerned with the practical application of medical science to everyday life, while the other is the narrative of those great personalities who have been chiefly responsible for the conversion of medicine from magic and conjecture to science. Colonel Vedder's book has somewhat more verve than the other, but both are, in general, written in a straightforward, pleasing style, without embellishment. Both are much more authoritative than most of the recent books on either of the topics dealt with.

The gamut of modern medicine, in its application to personal health, is adequately covered by Colonel Vedder. His book is divided into two parts, the first dealing with the multifold causes of various diseases, and the second with the present accomplishments in disease prevention and the future problems in the field. Although all of it is eminently practical, he lapses into an essay in his chapter on cancer, especially when he endeavors to prove mooted points. The remainder of his material consists mostly of irrefutable facts, though in one place he is, perhaps excusably, not wholly up to date. The chapter on nutrition, for example, would have been brilliant five years ago, but in the light of recent developments in this rapidly advancing science, his discussion of the vitamins, which he calls by the generally discarded term, "vitamines," is rather inadequate. These are minor deficiencies in a well balanced, useful text.

The history of medicine by Drs. Lambert and Goodwin is exceptionally well told, even if it makes no conscious attempt to be dramatic, as is possible and would be legitimate, in view of the significance of the subject. From the days of Æsculapius, the galaxy of celebrated physicians who have graced the centuries and contributed to the healing art, is described. As is customary in most histories of medicine, much more space is devoted to the evolution of curative medicine than to preventive. One chapter is concerned mainly with Jenner and Pasteur, and another with Gorgas, the last named as representative of public sanitation. General Gorgas appeals to the popular mind as the outstanding sanitarian, but he was really only an exceptional administrator who applied scientific facts developed by Walter Reed and his colleagues. There is no mention of Sedgwick, who was as notable as Gorgas, and only passing reference to Florence Nightingale, who, although a nurse, was undeniably a medical leader.

In physical make-up, as in interesting, and sometimes curious, facts, these two books are satisfactory. The reader, whose pleasure in perusing Colonel Vedder's book will be disturbed slightly by having to cut so many pages, will get a thrill from the sixty-foot tapeworm described, as well as from the tick-carrying gophers and the filaria that, for some unknown reason, can circulate in the peripheral human blood only at night. Anecdotes such as the manner in which John Hunter obtained the skeleton of the Irish giant, also enliven the book of Drs. Lambert and Goodwin, though the reader will look for these and other items in the index in vain, for there is none.

These two books, different and yet similar in so many respects, can be highly recommended to the intelligent lay reader, who would and should learn something to his advantage about the perennial subject of human health.

JAMES A. TOBEY, '15

City Planning Comes of Age

OUR CITIES TODAY AND TOMORROW, by Theodora Kimball Hubbard and Henry Vincent Hubbard. $5.00. 389 pages. Cambridge: *Harvard University Press.*

THIS WIDE SURVEY of planning and zoning progress, encyclopaedic in character, is timely, and of great practical value. The only other review of city planning comparable in any way was that made in 1917 by the Committee on City Planning of the American Institute of Architects, entitled "City Planning Progress," edited by George B. Ford. The basis of merit and thoroughness of which the volume of the Hubbards gives so much evidence has been made possible by a grant to Harvard University from the Milton Fund for research. This grant permitted the engagement of a field representative, Mr. Howard K. Menhinick, a keen observer, to visit about 120 cities and nearly a score of counties and regions in many parts of the United States, in order to secure first-hand information. The field notes on subjects of particular current interest are printed in the Appendices. More important, however, is the fact that the results of this study have been assimilated by the authors and closely integrated in the book itself.

Some of the beacon lights of city planning achievement receiving special mention are: St. Louis, Cincinnati, and Memphis, for comprehensive planning programs in larger cities; and for smaller communities: Kenosha, Wis., or

Ponca City, Okla.; Chicago and Detroit for magnitude and brilliance of enterprise and for leadership in regional development; Milwaukee and Los Angeles for wise city and county coöperation in producing harmonized plans; Denver and Philadelphia for the visible enbodiment of civic pride; Johnstown, Penna., and Dallas for the training of citizens, young and old, in knowledge and support of planning; Pittsburgh and Boston for steady welding of planning into the structure of municipal government; New York for leadership in regional research; Washington for crystallization of national ideals of dignity and beauty; and many others for high achievement and bold undertakings or patient persistence in day-to-day shaping of the community of the future.

The authors, it is quite evident, have had the city's appearance in mind throughout, but the subject is discussed directly in only one chapter. It is well set forth, especially in connection with civic centers, their architectural aspects, and their place in comprehensive plans. The commercial value of beauty and civic attractiveness is also suggested. Three types of communities in which positive beauty is peculiarly essential are mentioned: namely health and pleasure resorts, residential towns and suburbs, and great metropolitan centers. Apt examples of these three types are given. "Commerce and industry," the authors hold, "have recognized their insufficiency in satisfying human needs, without accompanying manifestations of beauty. Since the World's Fair of 1893 some of our cities have come a long way from the prevalent unsightliness of haphazard growth, but many of them are just beginning to learn the lesson that they can reap substantial benefits in economic productiveness and social development through achieving order and seeking beauty."

The importance of subdivision control is well discussed. It is pointed out that the control of undeveloped land within and around urban communities offers the greatest opportunity for constructive planning as distinguished from replanning. Wise measures of control can produce types of development in new areas adapted to modern standards of light and air and space and in line with the dictates of modern public health ideas.

"Our Cities Today and Tomorrow" makes a wide appeal. The book is indispensable to the technician, and should be owned by all those engaged professionally in city planning activities. The lawyer concerned with city planning will find the volume directly useful. There are half a dozen chapters in which information of a legal character can be had in better form than anywhere else, and the whole book throws light on the legal machinery and public control essential for city and regional planning enterprises. While not a textbook in the ordinary sense, the volume will be of great value in educational institutions where city and regional planning and related subjects are studied, either profesionally or from a general educational viewpoint. Its greatest source of usefulness, however, may readily prove to be with the citizen upon whom the advance of city planning so much depends. Among the most interesting and directly helpful chapters to the general public are those dealing with "Educating the Public to Support City Planning," "Financial Programs," "It Pays to Plan," and "Lines of Future Progress."

In the final chapter the authors give a useful discussion of research in this field, and its relation to future progress. The following may be quoted: "In the selection of subjects of research, those should have first place which are likely to yield results bearing a direct relationship to human welfare. The environment for human living, working, and playing constitutes the whole physical and social background of planning. The more we think in pictures of space and light and air and amenity and the less in terms of formulae and statistics the more vital will be the practical effects of specialized study. The difficulties and obstacles encountered in cities in various parts of the country deserve more thorough ventilation and analysis. Such problems can never be solved by research alone, but by exchange of interpreted experiences there is a vast amount to be learned." It is not enough that the result of research should be presented in good form for technical use. The most significant facts and conclusions should also be given popular form — as in the publications of the Regional Plan of New York.

There is an excellent brief review of the subject of air terminals in connection with the discussion of rail and water terminals, and reference is made to the fact that a grant from the Milton Fund to Harvard University has been authorized which will provide for an airport study, to consider the financing and administration of airports, and their relation to the city plan.

There are some three dozen illustrations — diagrams, cartoons, charts, and photographs — in the book, of great variety, and they all illustrate admirably the point to which they refer. They are not mere pictures.

In the concluding chapter of the book the authors discuss in a plain and practical way the character of the American city of tomorrow. Perhaps the central sections of a great metropolis like that of New York or Chicago may in the future be reconstructed along some such radial lines as those proposed by Le Corbusier in his volume on "The City of Tomorrow and Its Planning." But New York and Chicago are not the United States. The authors of this forward-looking but sane volume dismiss "turreted Babylon," somewhat peremptorily, but they make bold to predict that the American city of the future will have enough open land to prevent the merging of neighborhoods in a soulless urban mass; that if its central buildings are high, they will, nevertheless, be proportioned to streets, traffic, and open spaces; that the growth will be a balanced growth, and that private rights and public rights will be reasonably adjusted so that "each may enjoy his own right to light and air and space and touch with the life-giving earth." If this can be realized, it would seem to be Utopia enough in this modern commercial world of ours.

JOHN NOLEN

Modernism in the Home

THE NEW INTERIOR DECORATION, by Dorothy Todd and Raymond Mortimer. $6.00. 42 pages. New York: *Charles Scribner's Sons.*

AN admirable book! It explains lucidly and illustrates amply the philosophy and form of modern interior decoration. If there are still people who believe that modern decoration is not a desirable and explicit im-

pression of our own time, let them first turn to Plate 4, opposite Page 6, and contrast the two rooms pictured there. One room is a relic of the late Nineteenth Century, a paroxysm of decoration, over furnished, lush as a Victorian love story. The other room designed by Djo Bourgeois, graceful by virtue of the elimination of the unnecessary, is a true reflection of the contemporary *Zeitgeist*, the spirit of the time. Except in the minds of those still dwelling in the period of the Regency there can be no doubt about the superiority *for use by we moderns* of the latter room.

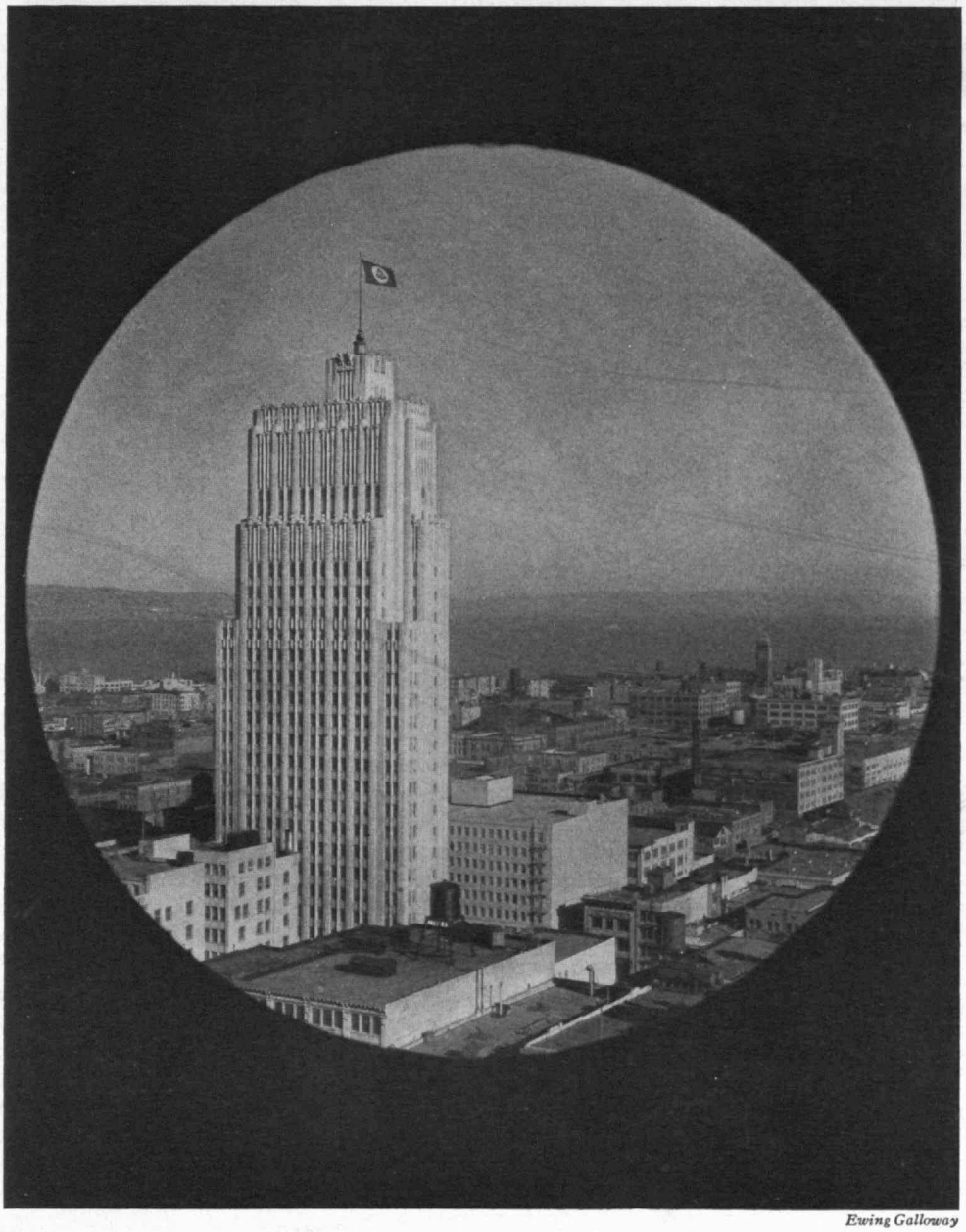
"The contemporary movement in the arts," say the authors, "has now developed a vigor which makes all attempts to disregard it ridiculous . . . and it is the thesis of this book that already work in the applied arts is being produced which can take its place with the fine products of the past, and which at the same time is highly original and characteristic of the present . . ."

After discussing the influence of contemporary painting and architecture on decoration, continental, English, and American decoration is surveyed. There follows next 154 plates, and finally a chapter *Methods and Features*.

Only a page is devoted to American decoration, though one could hardly expect more since American art is "still subservient to European traditions. . . . Having constructed a building that is admirably composed in mass, they [Americans] suddenly remember Chartres or Venice, and decorate its top and bottom stories with irrelevant imitated ornament." Too true, but there is a growing number of vigorous exceptions, as a survey of New York's skyline will immediately prove. And what of the Exhibition of Contemporary American Art at the Metropolitan Museum of Art last year? None of the significant contributors to that exhibit are mentioned in naming the Americans who have done acceptable modern work.

All in all a judicial and illuminating book.

J. R. K., Jr.



SAN FRANCISCO FROM THE CLAUS SPRECKLES BUILDING

Ewing Galloway

President-Elect of the Institute

Dr. Karl T. Compton, Chairman of the Department of Physics, Princeton University, who becomes President in July

DR. COMPTON HAS THE FOLLOWING DEGREES: PH.B., COLLEGE OF WOOSTER, 1908; SC.M., 1909; PH.D., PRINCETON UNIVERSITY, 1912; SC.D. (HONORARY), COLLEGE OF WOOSTER, 1923; LEHIGH UNIVERSITY, 1927

TECHNOLOGY is to have both a Chairman of the Board and a President. Dr. Stratton continues as titular head of Institute, but in July the name of his office will be Chairman of the Executive Committee and of the Corporation. The Presidency which he leaves vacant will be filled by Dr. Karl T. Compton, Chairman of the Department of Physics at Princeton University.

This new executive organization, strikingly similar to that of a large business corporation, will permit a distribution of the Institute's innumerable administrative duties between two men. A study, initiated by Dr. Stratton, by the Executive Committee of the Corporation made it apparent that the problems of administration have grown so enormous that they should be divided. Traditional educational administrative organizations are no longer adequate to meet the complex problems of today.

The Institute feels it is most fortunate in securing the services of a young man of such distinction as Dr. Compton, who at the age of forty-two, is one of the outstanding physicists of America, and an educator of wide experience.

Dr. Compton was born at Wooster, Ohio, September 14, 1887. He is the son of Elias Compton, a Presbyterian clergyman and Emeritus Dean, Acting President and Professor of Philosophy in the College of Wooster. One brother, Dr. Wilson M. Compton, is Secretary and Manager of the National Lumber Manufacturers Association, while his other brother, Arthur H. Compton, is Professor of Physics at the University of Chicago and was awarded the Nobel Prize Laureate in Physics in 1927. His sister, Mrs. Charles Herbert Rice, is the wife of the President of Ewing College in Allahabad, India.

Chairman-Elect of the Corporation

Dr. Samuel W. Stratton, who suggested and will fill a new administrative position at the Institute

DR. STRATTON HAS THE FOLLOWING DEGREES: B.S., UNIVERSITY OF ILLINOIS, 1884, D.ENG., 1903; D.SC., WESTERN UNIVERSITY OF PENNSYLVANIA (NOW UNIVERSITY OF PITTSBURGH), 1903, CAMBRIDGE, 1909, YALE, 1919; LL.D., HARVARD, 1923; PH.D., R.P.I., 1924

Dr. Compton has held the following positions: Instructor in Chemistry, Wooster, 1909–1910; Instructor in Physics, Reed, 1913–1915; Assistant Professor of Physics, Princeton, 1915–1919; Professor of Physics, 1919–1930. He is also Research Professor and Chairman of the Department of Physics in Princeton University. He is a Fellow of the American Physical Society, and of the American Optical Society; a member of the National Academy of Sciences, the American Philosophical Society, the American Chemical Society, the American Electrochemical Society, the Franklin Institute, Deutsche Physik Gesellschaft, the American Association for the Advancement of Science, Phi Beta Kappa, and Sigma Xi.

He was Vice-President of the American Physical Society from 1925–1927 and President from 1927–1929, and was Chairman of the Division of Physics of the National Academy of Sciences 1927–1930. He is a member of the Executive Committee of the National Research Council and of the American Association for the Advancement of Science. He is Chairman of the Physics Sub-Committee of the National Research Council on the Chicago 1933 Exposition. For a number of years he has been Consulting Physicist for the United States Department of Agriculture.

He is the author of many publications dealing with research in photo-electricity, ionization of gases, soft x-rays, spectroscopy in the extreme ultraviolet, fluorescence and dissociation of gases, electric arcs, and other types of gas discharge.

Dr. Compton is married and has three children, Mary Evelyn, Jean Corrin, and Charles Arthur. Mrs. Compton is a daughter of Professor J. Corrin Hutchinson, Emeritus Professor of Greek in the University of Minnesota.

Chairman and President

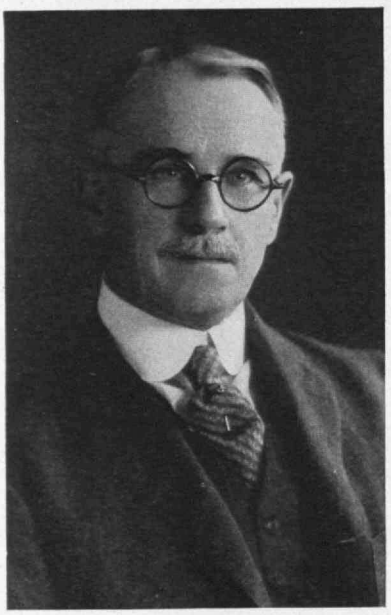
THE Review hastens to felicitate President Stratton on the new administrative set-up which he has sponsored. It feels that the arrangement of having Dr. Stratton as titular head of the Institute in his capacity as Chairman of the Executive Committee and the Corporation and Dr. Karl T. Compton as President will be a particularly happy solution of the immense problem of governing Technology.

The Review is sure that it is voicing the sentiment of the entire Alumni Association when it welcomes Dr. Compton and wishes him a long, happy, and successful tenure of office.

Alumni Association Nominations

BALLOTS went out on March 20 to members of the Alumni Association containing the names selected by the Nominating Committee to fill the nine offices annually made vacant in the Alumni Association. Together with these ballots were mailed the names of the nine candidates for Term Membership on the Corporation. The Alumni body selects three from this list and submits them to the Corporation for formal election by that body. As successor to Paul W. Litchfield, '96, now President of the Association, the man presented is Thomas C. Desmond, '09, President of T. C. Desmond and Company, Inc., of New York City. From the Class of '09 comes another man who has been prominent in Institute affairs, Maurice R. Scharff, '09. Mr. Desmond is Chairman of the All-Technology Reunion Committee for 1930 and in 1926–1927 was President of the Technology Clubs Associated. He has been President of the New York Young Republican Club and active in politics in the state. His executive ability and his knowledge of Institute affairs, as well as his unlimited energy, will be of great value to the Association.

Harold B. Richmond, '14, retires as the senior Vice-President and is succeeded by Francis J. Chesterman, '05. Taking Mr. Chesterman's place as the junior Vice-President is Donald G. Robbins, '07, an engineer associated with Hornblower and Weeks of Boston. The two new members of the Executive Committee are Raymond S. Stevens, '17, associated with Arthur D. Little, Inc., of Cambridge, and Henry E. Worcester, '97, Vice-President of the United Fruit Company. These men replace the retiring members, Samuel C. Prescott, '94, and Edward B. Rowe, '06, of Norwood White and Company, Inc., of Boston.



FREDERICK S. WOODS, PROFESSOR OF MATHEMATICS, WHO BECOMES HEAD OF HIS DEPARTMENT UPON THE DEPARTURE OF THE PRESENT HEAD IN JUNE, PROFESSOR HARRY W. TYLER, '84. PROFESSOR TYLER LEAVES TO BECOME A CONSULTANT TO THE LIBRARY OF CONGRESS

Five more names are on the annual ballot for Representatives-at-Large on the Alumni Council: James I. Banash, '06, of Chicago, Ill.; W. Rawson Collier, '00, of Atlanta, Ga.; Robert J. Marlow, '17, of New York; Burt R. Rickards, '99, of Albany, N. Y.; and Carl J. Trauerman, '07, of Butte, Mont.

Ballots are due back in the Alumni Office by April 20. Announcement of the result of the voting will be made soon thereafter. Since only one nomination is made for each Alumni Association office, only the Corporation nominees listed on the next page are contingent upon the balloting.

Reunion High Lights

NEWS that President Stratton is to become Chairman of the Institute's Corporation and that Dr. Compton will fill the presidential vacancy gives an added importance to the All-Technology Reunion on June 6 and 7. Doubtless there will be formal ceremonies honoring both Drs. Stratton and Compton, and the Alumni will have the opportunity of seeing and meeting the Institute's forthcoming President.

A blanket price of $10.00 covering all Reunion events has been definitely settled upon by the Reunion Executive Committee. This is the lowest price that it has ever been possible to offer for so many important events. It was made possible by the generosity of many Technology men who have contributed to a fund to support the Reunion.

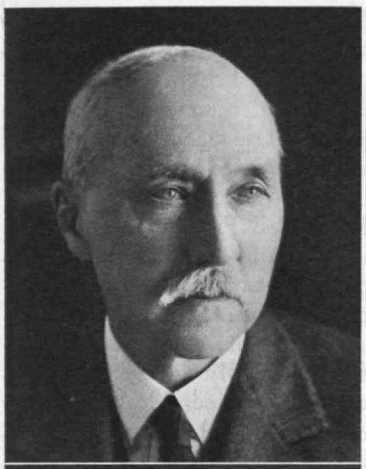
As announced in the March *Reunion Bulletin*, reduced round trip railroad fares will be available to Technology men returning to the Reunion. All Alumni should consult the March *Bulletin* for information, schedules, and instructions for obtaining the reduced round trip fares. The Reunion Committee is anxious to emphasize the fact that all official Reunion events are open to ladies. A committee of women working in coöperation with the M.I.T. Women's Association is providing special features for entertaining the wives of all Technology men at the Reunion.

A still further development of Alumni Day is being undertaken in that Heads of different Departments are planning to arrange courses and departmental conferences to enable Alumni and Faculty to exchange views.

The Technology Review for May will be a special issue celebrating the oncoming Reunion and all Alumni who wish to obtain complete details about all aspects of the Reunion should obtain and carefully read that issue.

Corporation Nominees

NINE men each year are chosen by the Nominating Committee and presented to the constituency of the Alumni Association for it in turn to select three from the nine as candidates for Term Membership on the Corporation, legal governing body of the Institute. The Corporation, now largely composed of Alumni, invariably has accepted and welcomed these nominees. The group this spring from which the Association chooses the three who will take office for five years beginning July 1, is composed of the following:



Left, from top to bottom

GODFREY L. CABOT, '81
President, Godfrey L. Cabot, Inc., Boston

WILLIAM D. COOLIDGE, '96
Associate Director, Research Laboratory, General Electric Company, Schenectady, N. Y.

GEORGE A. PENNOCK, '99
Assistant Works Manager of the Hawthorne Works of the Western Electric Company, Inc., Chicago, Ill.

CHARLES E. SMITH, '00
Vice-President, New York, New Haven and Hartford Railroad Company, New Haven, Conn.

Bottom center

SELSKAR M. GUNN, '04
Vice-President of the Rockefeller Foundation, in charge of activities in Europe, Paris, France

Right from top to bottom

WILLIAM R. GREELEY, '02
Member of the firm of Kilham, Hopkins and Greeley, Architects Boston

REDFIELD PROCTOR, '02
President, Proctor Trust Company, Proctor, Vt.

WILLIAM D. B. MOTTER, JR., '05
Assistant to the Vice-President of the Chile Exploration Company of New York, New York

LAWRENCE ALLEN, '07
Industrial Engineer, United Shoe Machinery Corporation, Boston

Photographs of Messrs. Cabot, Smith, Gunn, Greeley, and Motter; by Purdy, Underwood and Underwood (©), Bachrach, and Blank and Stoller, Inc., respectively.

The 144th Meeting

THE February meeting of the Alumni Council, after a dinner in the Faculty Dining Room of Walker Memorial was called to order at 7:45 by Harold B. Richmond, '14, presiding in the absence of the President. He introduced, as a salad orator, Thomas C. Desmond, '09, who spoke for eight minutes on the 1930 Reunion plans rehearsed on page 306.

The Secretary of the Association, Laurence P. Geer, '15, reported the election by the Executive Committee of 38 former students to Associate Membership in the Association. He also read the Treasurer's report which contained the following statement: "As of February 1, the Association's Operating Statement showed a Net Operating Surplus of $3,309.52 compared to $2,138.19 in 1929. Income from dues and income from Sustaining Memberships are greater than they have ever been in the history of the Alumni Association, and the increases will partly offset the extra expenditures incident to the June Reunion."

Secretary Geer also summarized the report of The Review Editors as follows: "Dues collected up to February 21, 1930, totalled 7,490 as compared with last year's final total of 7,324. Between now and June 30 next approximately 175 other dues payments may be expected."

James D. Brennan, former Treasurer of the University Club of Boston and Vice-President of the First National Bank, spoke briefly about the University Club and its new President, Walter Humphreys, '97. Mr. Brennan also discussed the need of keeping Alumni interested in their colleges. The Council voted to write a letter to Mr. Humphreys expressing the gratitude of the Council in his election as President of the University Club and wishing him success in his work.

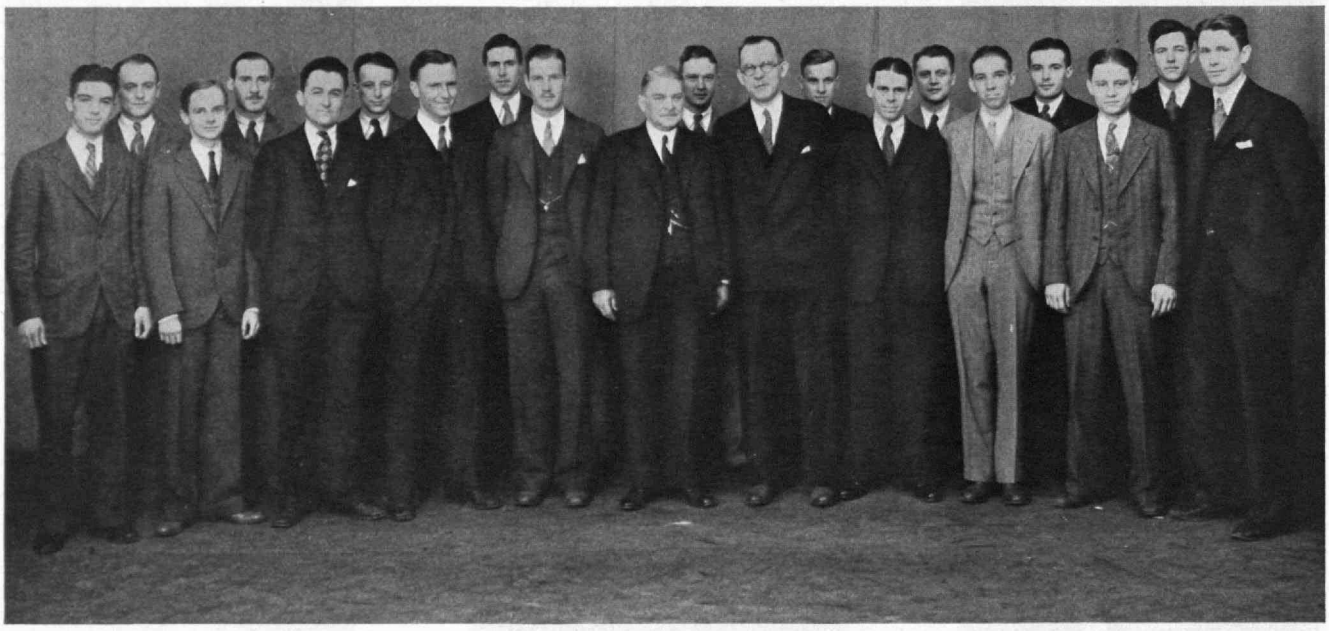
Mr. Richmond ordered held over until the March meeting a report of the Committee on the election of Term Members to the Corporation.

A proposal for a standard design for Technology class rings was presented by John F. Bennett, '30, President of the Institute Committee, who stated that this design had been made up by a committee which contained representatives of each of the undergraduate classes. The Council voted that the design be approved as a standard design for Institute class rings.

The chairman then introduced Professor Donald C. Stockbarger, '19, who talked on ultraviolet light or "the tin can tan." He pointed out that commercial sun lamps varied greatly in their characteristics, that a number of them were incorrectly advertised and that their physiological effects were not thoroughly understood. Dr. Stockbarger's remarks evoked considerable discussion. Professor Erwin H. Schell, '12, was next introduced and spoke on the subject "Are Engineers Managers?" which was illustrated by lantern slides. Professor Schell also provoked general discussion, particularly on the value of the type of course represented by Course XV at the Institute.

The meeting adjourned at 9:45 P.M. There were 55 members and guests present.

Between the time that this is written and the appearance of The Review in the mails, another Alumni Council meeting will have been held. In accordance with the old and happy custom it will revive the combined Faculty and Alumni Council assemblage, the program including a presentation of the plans for enlarging Walker Memorial. These plans inspired by the work of a committee of undergraduates are to be presented by Harry J. Carlson, '92. A complete description of them, together with drawings, will be presented in the May issue of The Technology Review. Dr. Allen Winter Rowe, '01, is to present a report to this committee on a new method for Term Membership selection, which report includes suggestions for a general reorganization of the administration of the Alumni Association. Mr. Desmond is to present further Reunion plans.



PRESIDENT STRATTON WITH 25 STUDENTS IN THE DEPARTMENT OF ENGINEERING ADMINISTRATION WHO ARE CARRYING ON BUSINESS RESEARCH FOR THE NEW ENGLAND COUNCIL. PROFESSOR ERWIN H. SCHELL, '12, PROFESSOR OF BUSINESS MANAGEMENT, IS IN CHARGE

SAILING AROUND NIAGARA

(*Continued from page 287*)

rence still barred the way to the sea. Steps to improve this section of the waterway had already been taken in 1821, three years before the Welland Canal was started, but the plan provided only for a canal around the famous Lachine Rapids just above Montreal. This work was completed in 1825, opening a way for vessels to proceed from the deep water of the St. Lawrence into Lake St. Louis. The task of circumnavigating the remaining rapids was carried on for more than 20 years.

In 1848 the last canal was completed and that far-reaching waterway from the Great Lakes to the Atlantic, the vision of generations of merchants and navigators, became a reality. That these early artificial links in the Great Lakes-St. Lawrence route permitted the transit of only small vessels in nowise discounts the significance of the achievement as an engineering work of great magnitude in its day.

The series of canals which carry shipping around the St. Lawrence Rapids include the famous old Beauharnois Canal, now replaced by the Soulanges Canal, which lifts ships above the Cascades, Cedar and Coteau Rapids between Lake St. Louis and Lake St. Francis. It is 14 miles long and is the most modern of the group. Others are the Cornwall Canal, a cut of 11 miles round the white turbulence of the famous Long Sault Rapids. Then come the Farran's Point and Rapide Plat Canals. With the growth of shipping on the Great Lakes it became necessary to enlarge and deepen these canals, all of which in 1901 were brought to a uniform limiting draft of 14 feet. No sooner had the work been completed than it became apparent that the improved waterway was quite inadequate for the demands of the immediate future.

The original Welland Canal was built via the Twelve Mile Creek from Port Dalhousie, on Lake Ontario, to Port Robinson on the Chippewa Creek. At Port Robinson, vessels descended the creek to the Niagara River, and thence to Lake Erie. It had 40 wooden locks, each 110 feet long, 22 feet wide, with 8 feet depth of water on the sills. It was connected by a feeder canal to the Grand River at Dunnville and later was extended from Port Robinson to Port Colborne on Lake Erie. This section was opened to navigation in 1833, and was located on what is now the site of the present canal between Port Colborne and Allanburg, the summit level. The canal was 27.5 miles long from lake to lake. (*Continued on page 312*)

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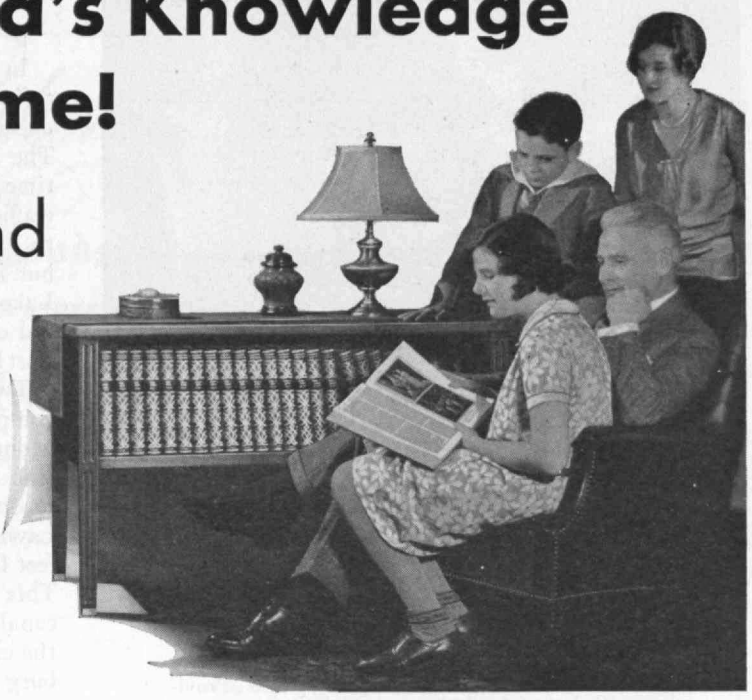

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SAILING AROUND NIAGARA

(Continued from page 310)

In 1841, the Legislature of Upper Canada (now Ontario) purchased the canal and decided to increase the depth to 9 feet, and to complete the St. Lawrence Canals. The Port Maitland-Dunnville branch was built at that time, and this route, or second canal, was opened to traffic in 1845. In 1853 the navigable depth was increased to 10 feet by raising the banks and the walls of the locks, but it was not until 1881 that the canal was fed from Lake Erie at Port Colborne. That portion of the second or old canal, as it is now called, between Allanburg and Port Dalhousie, ceased to be used for navigation about 1890.

Twenty-two years after Upper and Lower Canada had completed 9-foot navigation between Lake Erie and Montreal, the Dominion Government took up the question of inland navigation, and the Commission of 1870 recommended a uniform scale of navigation for the St. Lawrence route and the Welland Canal, with locks 270 feet long, 45 feet wide with 12 feet of water on the sills. This depth was later increased to 14 feet. The present canal leaves Lake Ontario at Port Dalhousie and climbs the escarpment east of the second or old canal, to Allanburg. From the latter place to Port Colborne it follows the route of the second canal. Its locks are built of hand-cut stone, with lifts of 12 to 14 feet. It is carried over Chippewa Creek in a cut stone aqueduct. This third canal, 26.75 miles long, was opened to traffic for 14-foot navigation in 1887, and the St. Lawrence River Canals in 1901, when the Northwestern Steamship Company of Chicago placed a fleet of 4 steamers of 2,000 tons capacity in commission between Chicago and Europe. The present canal up to March, 1928, cost, for capital construction and permanent improvements, $33,322,061.64 and $13,815,-859.20 for repairs and maintenance. These amounts include the cost and maintenance of the 3,000,000-bushel grain elevator at Port Colborne. The St. Lawrence and Welland Canals between Lake Erie and Montreal cost Canada, up to March, 1928, $82,675,084.34 on capital construction and permanent improvements, and $31,989,-925.14 for repairs and maintenance. The cost of the new Welland Ship Canal is expected to be approximately $115,000,000.

IN 1901 the total tonnage passing through the Welland Canal was only about 620,000 tons. In 1914, it had increased to 3,860,000 tons, indicating that since the completion of the 14-foot navigation system in 1901, the St. Lawrence route had drawn more heavily, year by year, upon the Great Lakes-Atlantic seaboard trade. As a result of the World War, when many lake vessels went into service on the high seas, traffic through the Welland Canal fell off from 3,860,000 tons in 1914, to 2,200,000 tons in 1918–1919. Since then, however, traffic has been growing rapidly, with a new maximum annual tonnage record of 7,247,459 tons, established in 1927. This notable increase in tonnage through the comparatively shallow present Welland Canal in the last 6 years gives some indication of what may be expected in the development of traffic when the new canal opens a passage to Lake Ontario and the upper St. Lawrence for the fleet that never before has passed below Lake Erie. *(Continued on page 314)*

SAILING AROUND NIAGARA

(Continued from page 312)

A rising tide of commerce on this route recalls the early history of the Erie Canal system and its great influence upon the development of the Empire state. The New York State Barge Canal, which clothes the historic skeleton of the Erie waterway, leaves Lake Erie near Buffalo and wanders northeastward across New York, utilizing a series of lakes and streams in its course of more than 300 miles to the headwaters of the Hudson River at Troy. It has a limiting depth of 12 feet and its locks are 300 feet long and 44.5 feet wide.

Comparison of distances over the St. Lawrence route and the New York Barge Canal reveals that from Buffalo to Liverpool via the St. Lawrence, the distance is 3,156 miles, or 374 miles shorter than the Empire State Canal route by way of the Hudson and the Port of New York.

The history of early exploration and trade on the Great Lakes chronicles the fact that the waterways south of what is now Chicago were trails of commerce between Lake Michigan and the Mississippi River country. The Illinois Canal which now permits the passage of shallow draft barges from Chicago to the Mississippi by way of the Illinois River, literally grew out of Chicago's solution of the problem of sewerage disposal. In developing the Chicago drainage canal system to carry the city's enormous waste away from the city's water supply in Lake Michigan, the flow of the Chicago River was reversed and it now carries the sewerage of Chicago southward to the Mississippi. While this waterway holds no lure as a path for pleasure craft, it is being used to a limited degree for barges drawing not more than 7 feet of water. As an outlet for distributing the goods of the Middle West southward along the Mississippi Valley the Illinois Canal has valuable potential possibilities. The question of increasing its depth to 9 feet is under consideration, but there is little likelihood that this waterway could ever be employed for large vessels. Aside from the vast undertaking of enlargement, the problem of maintaining deep channels in the Mississippi, which annually deposits 406,250,000 tons of silt in the Gulf of Mexico, still awaits solution.

In contrast to many rivers, the St. Lawrence flows deep and clear blue throughout its length and offers none of the problems of constant channel maintenance. Improvement of the St. Lawrence Canals to such dimensions as would permit the passage of ships drawing at least 25 feet, has been contemplated for many years. This involves reconstruction of a section comprising less than 50 miles in a deep waterway stretching 4,529 miles from Duluth, on Lake Superior, to Liverpool. During the past quarter of a century exhaustive surveys have been made to determine the feasibility and cost *(Concluded on page 316)*

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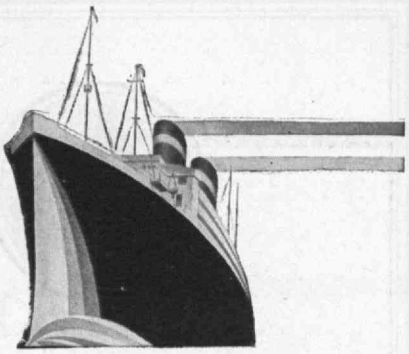

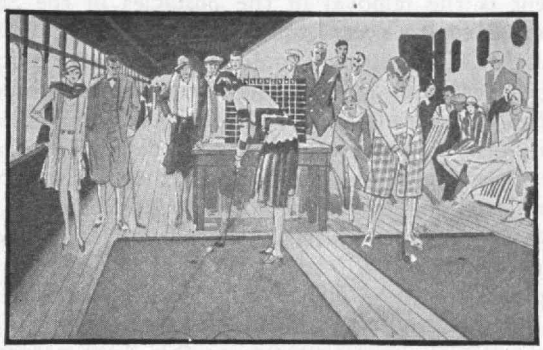

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SAILING AROUND NIAGARA

(Concluded from page 314)

of the improvements, and another has recently been undertaken by the International Joint Commission representing Canada and the United States.

Speaking last year at the celebration which marked completion of 9-foot navigation on the Ohio River from Pittsburgh, Penna., to Cairo, Ill., President Hoover emphasized the urgent need for further development of the continental waterways. Of the Great Lakes-St. Lawrence system he said: "One of the most vital improvements to transportation on the North American Continent is the removal of the obstacles in the St. Lawrence River to ocean-going vessels inward to the Great Lakes. Our nation should undertake to do its part whenever our Canadian friends have overcome those difficulties which lie in the path of their making similar undertakings." He estimated that after disposal of the electric power, the entire construction of the St. Lawrence River projects could be contracted for far less than $200,000,000, divided between the two governments, and spread over a period of 10 years.

Completion of the Welland Ship Canal this summer cannot help but arouse new interest in plans for carrying out the remaining improvements in this great natural highway. When that is done the vision of great ships carrying the products of a vast inland empire of industry and agriculture to the ports of the Seven Seas will have been fulfilled in the ultimate destiny of the St. Lawrence River.

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THE SICK TEXTILE INDUSTRY

(Continued from page 290)

to small units, and control its own marketing system.

Improvements will not arise out of any one geographic section or any spirit of sectionalism. To a certain degree Southern industry is repeating the early mistakes of the North by expending too much effort on relatively unimportant details of the operating system. The North on its part, although correcting some of its earlier fallacies of management, has failed to exhibit that singleness of purpose that is responsible for Southern progress.

Bear in mind that in the South the majority of the people are in their first generation in the university. They are agriculturists and traders and to a large extent the textile workers themselves are plain men from the hills. This social order is productive of a peculiar philosophical state of mind impossible of achievement in the city or in many of the great centers of learning. It is not impossible to conceive that both the Southern type of mind and the Northern type of mind working together can produce order in the textile industry, when working apart they could not.

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CITIES FIT TO LIVE IN

(*Continued from page 293*)

2. What perhaps is more important and more difficult is the support of public opinion. Here no one can predict.

3. Action can only be based upon official approval. This seems far off. City governments are conservative.

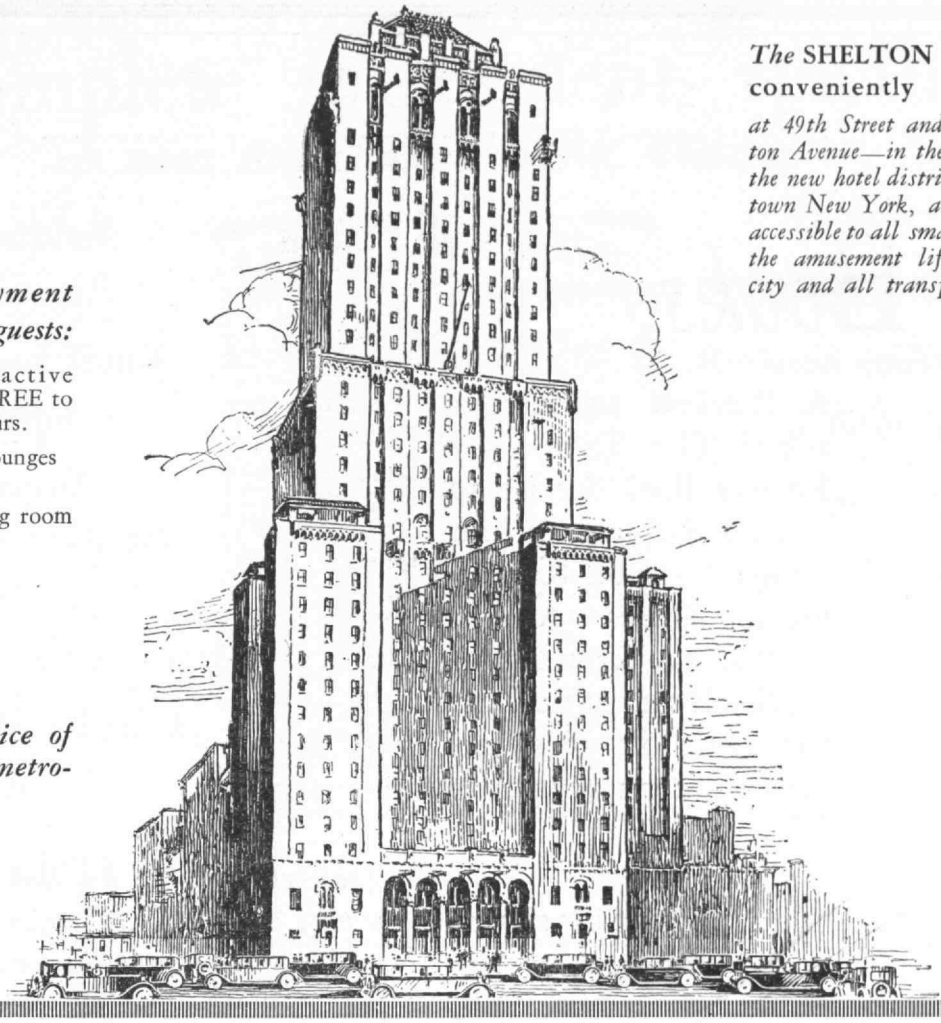
4. In this country, at least, new legal powers would have to be secured. Progress in such matters is slow.

But much can be done of a less downright character. The essence of many of these ideas can be applied from time to time, as opportunities occur. And then, in all of our big cities there are "blighted districts" that should be demolished and reconstructed. Sections of Paris, London, and Berlin, of New York, Chicago, and Boston, await action. The first demonstration will most likely come in Europe, especially in continental Europe — but who knows? A city like New York, "dying of greatness," may suddenly move in this as in other great enterprises, and lead the world.

A proposal for the physical planning, which is all that Le Corbusier claims for his work, is easier. More modern building methods can be adopted, and greater standardization of commercial buildings, skyscrapers, and residential apartments. This is being done increasingly.

Higher standards are aimed at through zoning control for increasing the amount of space required around buildings, for sunlight, air, vegetation, and for a general protection of the amenities of life. This is more difficult, but progress is sure.

Radical replanning and reconstruction of the street and block system, especially in downtown districts, is so difficult that at the moment it appears impossible except in so far as it has been done and is being done today in all our great cities. Our architect-author would call this "physic, not surgery." Progress, (*Concluded on page 324*)



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CITIES FIT TO LIVE IN

(Concluded from page 320)

however, is notable, and is well evidenced in a recent volume entitled "Our Cities Today and Tomorrow," by Theodora Kimball Hubbard and Henry Vincent Hubbard, which is reviewed in this issue.

But city planning, even in its merely physical aspects, is more than buildings, open spaces and streets. It is a complex, baffling problem in broad design, calling for the logical distribution of all the essential features of a modern city and its environs, and a reduction of all the parts into a unified whole. City planning is a recognition of the wide relationship of the bulk of buildings, the amount of open space, and the location and width of streets. It cannot break sharply with the past. It cannot ignore the present. It cannot for one moment forget that a city is not like any single structure, no matter how great that structure may be. A city is an organism, a growth, and cannot be put into a strait-jacket, even if such action might make for greater efficiency, for health, for prosperity, for public welfare, for life itself.

Obstacles there are, of the most formidable character, real and imaginary, the latter probably more formidable than the former. Mankind seldom moves by logic and reason, and all changes, or nearly all, that bring benefit to some bring losses to others. Then there is habit and convention to combat.

The modern world needs a modern city. It needs something more like what Le Corbusier has proposed. Grim necessity will bring change. No one who is awake can fail to see the increasing necessity for change; no one who has faith in modern enterprise and power can fail to be confident that we are on the eve of a new order for greater cities and their surrounding regions.

Is Le Corbusier one more dreamer, or is he a prophet? Are his plans, ideas, and program chimerical? Is "the city a machine for working in?" Is his scheme "brutal," as he says, because city life itself is brutal? Or does he point to a better way to rebuilding our great cities to meet the imperative requirements of our own century and those that are to follow?

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ADVERSARIA

Commissioned

EDWARD F. MILLER, '86, Head of the Department of Mechanical Engineering at the Institute, also Head of the Ordnance School of Application, and Dean of Army Students, upon retirement from active service in the Reserve Officers Corps, was made a Colonel in the Army Ordnance Auxiliary Force, in recognition of his services during and since the War.

Honored

¶ To GEORGE EASTMAN, Life Member of the Corporation, the medal of the American Institute of Chemists for "noteworthy and outstanding service to the science of chemistry and the profession of chemist in America." Dr. FREDERICK E. BREITHUT, President of the Institute, in making the award, called particular attention to his munificent gifts to Technology.

¶ To WALTER E. SPEAR, '97, by the degree of Doctor of Science from Northwestern University, for his work in the removal of algae from water by trisodium aluminate treatment.

Spoke

¶ DR. LUDWIG PRANDTL, Director of the Aero-Dynamics Laboratory of the University of Göttingen, Germany, at the Institute during the past month. He presented a series of lectures on aeronautics.

¶ PAUL W. LITCHFIELD, '96, President of the Goodyear Tire and Rubber Company, the Goodyear-Zeppelin Corporation, and the Technology Alumni Association, at the January 13 luncheon of the Boston Chamber of Commerce, on future air travel by Zeppelin.

¶ C.- E. A. WINSLOW, '98, Professor of Public Health at the Yale Medical School, at an Aldred Lecture at Technology, and earlier in the day to the Faculty Club on his health work with the League of Nations.

¶ WILLIAM H. BASSETT, '91, technical supervisor to the American Brass Company at Waterbury, Conn., at Columbia University. He stated that modern scientists can make copper as hard as the ancients could, in spite of the belief to the contrary.

¶ RAYMOND M. HOOD, '03, at the Architectural League's forty-fifth annual exhibition in New York, awarding their medals of honor.

¶ MAYO D. HERSEY, '09, chief of lubrication at the Bureau of Standards in Washington, before the Detroit section of the American Society of Mechanical Engineers. Subject: "Lubrication."

Bequests

¶ By FRANK G. WEBSTER, father of EDWIN S. WEBSTER, '88, senior partner of Kidder, Peabody and Company of Boston, of $25,000 to the Institute.

¶ By MRS. FANNIE E. PRATT, wife of the late CHARLES H. PRATT, of $800 for an illuminated clock on the Pratt School of Naval Architecture and Marine Engineering, the gift of her husband.

Appointed

¶ WILLIAM T. KEOUGH, '88, to membership on the Boston Finance Commission.

¶ WILLIAM Z. RIPLEY, '90, to be expert adviser to the Providence Chamber of Commerce in the attempt to establish trunk line connections for Providence.

¶ CALVIN W. RICE, '90, to be a member of the National Committee for the United States at the Berlin meeting of the World Power Conference.

¶ JAMES A. EMERY, '93, Vice-President of Ford, Bacon and Davis, Inc., to represent the executive branch of the city in a conference of experts to adjudicate the fiscal relationship of Philadelphia and its rapid transit interests.

¶ FREDERICK A. HANNAH, '95, to modernize and restore the industrial plants in Russia under the supervision of the Supreme Economic Council of the Soviet Government.

¶ CAPTAIN ARCHIBALD L. PARSONS, U. S. N., '97, to be chief of the Bureau of Yards and Docks of the Navy Department.

¶ WALTER HUMPHREYS, '97, Secretary and Life Member of the Corporation, to be President of the University Club of Boston.

¶ HENRY C. MORRIS, '00, to be chairman of the American Engineering Council, appointed to conduct a survey which will collect, tabulate, analyze, and disseminate information on the earnings of engineers in the various branches of the profession.

¶ ROBERT M. DERBY, '01, to be a Vice-President of the Niles-Bement-Pond Company, in charge of foreign business.

¶ NATHANIEL K. B. PATCH, '01, to be President of the American Foundrymen's Association, of which he has recently been Vice-President.

¶ LAMMOT DU PONT, '01, to be chairman of the board of the General Motors Corporation.

¶ PERCY G. HILL, '05, to be Vice-President in charge of engineering of the Western Union Telegraph, located in New York.

¶ JAMES M. BARKER, '07, to be a Vice-President of Sears, Roebuck and Company, in charge of the eastern territory.

¶ GEORGE A. COWEE, '11, to be Vice-President of the Liberty Mutual Insurance Company of Philadelphia.

¶ HAROLD G. JENKS, '11, to be an associate member of the Boston Stanford Wright Agency of the Penn Mutual Life Insurance Company of Philadelphia. Mr. Jenks will be located in Boston.

¶ CHARLES P. FISKE, '14, to be Vice-President of the General Motors Acceptance Corporation, in charge of domestic borrowing and financial sales operations.

¶ MARSHALL B. DALTON, '15, to be a Vice-President of the Liberty Mutual Insurance Company.

¶ EDWARD P. WARNER, '17, to be President of the Society of Automotive Engineers.

¶ EDWIN E. ALDRIN, '17, and DANIEL P. BARNARD, '21, to Vice-President and member respectively of the Stanavo Specification Board formed by the Standard Oil Companies of New Jersey, California, and Indiana, to determine the requirements for petroleum products in aviation, to establish specifications, and check the uniformity of Stanavo products.

¶ JOSEPH T. WOODRUFF, '17, to be planning engineer for the Regional Planning Federation of the Philadelphia Tri-State District. The plan will include a coordinated system of parks, transportation, and sanitation between the states of New Jersey, Pennsylvania, and Delaware. On the Board of Directors are PIERRE S. DU PONT, '89, and ELISHA LEE, '92.

¶ ARTHUR C. HARDY, '18, Associate Professor of Optics and Photography in the Institute's Department of Physics, to be

chairman of the committee on standards of the Society of Motion Picture Engineers. The committee is to determine a regulation width for motion picture film and other problems relating to the sound moving picture.

¶ MARSHALL C. BALFOUR, '19, to do research on malaria for the Rockefeller Foundation in Athens, Greece.

Deaths

Reports have come to The Review of the decease of the following:

¶ RANDAL WHITTIER, '71, on February 10, in Harrodsburg, Ky. The account of his death will be found in the '73 Class Notes.

¶ EDWARD H. GREENLEAF, '73, on February 4. Formerly he was assistant curator of the Museum of Fine Arts in Boston.

Correction must be made of the statement in the '75 Notes last month in announcing the death of FRANK H. PIERCE, '75. Mr. Pierce is well and living in New Haven, Conn.

¶ JOHN C. SHERLOCK, '75, on December 18. He had been living in California since his retirement.

The Secretary of '77 has continued his search in old records and reports the following deaths: EDWARD F. C. BERTON, in 1875; THOMAS BYERS, in 1881; and WILLIAM BURTON, on March 25, 1912.

¶ CHARLES F. LIBBIE, '81, on April 24, 1927. At the time of his death he was in business in West Acton, Mass.

¶ HARRIET A. WALKER, '81, She was an assistant in the Botany Department of the University of California.

¶ LINUS FAUNCE, '77, on February 27. From 1884 to 1903 he was a member of the Department of Drawing and Descriptive Geometry at the Institute.

¶ FREDERIC M. KIMBALL, '85, on February 5. He originated the Kimball plan for the General Electric Company, a system involving dealers now used by most large motor manufacturers.

¶ WILLIAM G. SNOW, '88, on February 14. The Secretary of his Class was Treasurer of the Middlesex Products Company of Boston. A detailed account of his life will appear in a forthcoming issue.

¶ THEODORE W. PIETSCH, '89, on January 1. His architectural work in Baltimore made his name well known.

¶ ARTHUR R. WILSON, '90, on October 19. He was President of the Granite Rock Company of Watsonville, Calif.

¶ JAMES R. BLAIR, '91, on November 9. He was with the Whiting Milk Company in Cambridge, Mass.

¶ JOHN DALAND, JR., '91, on January 25. Formerly he was city purchasing agent in Salem, Mass.

¶ EDWARD M. WELD, '91, on December 27. He was the creator of the cotton department in the firm of F. B. Keech and Company in New York.

¶ WARREN D. KING, '93, on January 4. As general manager of the Municipal Electric Light Department, he was a prominent citizen of Peabody, Mass.

¶ CHARLES A. TRIPP, '93, on February 11. Until his death he was Secretary-Treasurer of the United States Flashless Powder Company, of which product he was the inventor.

¶ HARRY B. HARDING, '94, on August 26. At one time he was associated with Lewis and Conger in New York. Later information concerning him is lacking.

¶ JOHN DOVE, '95, on August 4. While Mr. Dove was a member of the Class of '95, he had many friends in '96.

¶ MRS. FRANK W. TAUSSIG (LAURA FISHER), '95, on January 7. She was a resident of Cambridge, Mass.

¶ CHARLES H. INGALLS, '96, on August 4. His knowledge of meters made him a valuable member of the Boston Edison Electric Illuminating Company.

¶ FREDERICK E. FORSTER, '96, on September 3. He was southern representative and director of The Draper Company, a firm concerned with the textile industry.

¶ KINSLEY BLODGETT, '96, on December 17. At Navesink, N. J., Mr. Blodgett had been the pastor of All Saints Church for several years.

¶ LIONEL NORMAN, '97, on January 14. He was a lawyer, living in Winchester, Mass.

¶ HENRY R. DAVIS, '04, on November 11. He had been associated as an architect with Ralph Harrington Doane, '12, in Boston.

¶ D. FREDERICK DOW, '04, on December 29. Mr. Dow died in Waterville, N. C., where he was employed by the Phoenix Utility Company as engineer in charge of the Waterville hydroelectric development.

¶ MRS. GEORGE H. KEITH (LINDA S. FRAZER), '04, on January 1. She died at her home in Milton, Mass., after an illness of several months.

¶ EDWARD M. COFFIN, '05, on January 15. Mr. Coffin's public spiritedness made him a much loved figure in Newburyport, Mass.

¶ ARTHUR D. PRATT, '07, on December 31. He was connected with Babcock and Wilcox Company.

¶ WILLIAM E. HARTLEY, '18, on October 29, in Milwaukee, Wis.

¶ ROBERT C. JACKSON, '25, on December 28. Before his long illness he was connected with the Barbasol Company in Indianapolis, Ind.

¶ JAMES W. PUGH, '25, on March 6, 1929. Further details are lacking.

¶ HUBERT F. WILSON, '28, on July 20, in the Dutch West Indies, from injuries received in a steam explosion in the Pan-American Petroleum Company plant.

¶ PHILIP N. WILLIAMS, '29, on June 8, in Glastonbury, Conn., after a short illness.

The following appreciation of WALTER B. SNOW, '82, was prepared for the Alumni Council: "The record of Walter B. Snow's life work closed when he passed from us last August, but his enduring influence, unobtrusive as his own character, continues with every constructive activity of the alumni organization.

"There are few, even of that earlier time, who are aware of the studied plan that led up to the reincarnation of the Alumni Association in 1908, after a social existence of years. It was the capitalization of a power which immediately brought to the aid of the Institute, struggling under the burden of forced expansion, the tremendous influence of a great alumni body, ably manned and organized and eager to help. It was the untrumpeted conception of Walter Snow that paved the way to make this development possible, and, considered in the light of its direct and indirect results on the Institute, his star has a merited place in that galaxy of devoted pioneers in whose honor Technology stands.

"It was early in the '90's that Snow's creative mind saw the potential force that could be harnessed for the Institute's progress. The Alumni Association was so loosely organized that its evolution was practically impossible. Reorganization could be done only from the outside, so in 1896 he formed the Association of Class Secretaries with the idea of blazing the way for the creation of an effective alumni body when the time should be ripe.

"The Association of Class Secretaries began the publication of The Technology Review in 1899, and the same year started the first card catalogue of former students. It was instrumental in inaugurating the Walker Memorial Fund in 1898, it sponsored the first Technology Reunion in 1904 and influenced the authorities to publish the first *Register of Former Students*, donating $1,000 toward the expense. It undertook a great number of lesser enterprises, but its greatest accomplishment was the welding of the Classes into organized units and spreading the faith in Alma Mater.

"In 1908 the auspicious time arrived, and on request of the Alumni Association, a plan of organization was suggested, a new constitution was adopted, and the general activities of the Class Secretaries were turned over. The newly formed Alumni Council, under Snow as first President, applied itself at once to the constructive work, which, followed up by succeeding boards, has resulted to a large degree in the fortunate position of the Institute today, and in a spirit of alumni coöperation which has been an inspiration to other educational institutions.

"Walter Snow had a useful life as an engineer, manufacturer, author, and public worker. As a student he was interested in founding *The Tech* and was on its first board. Besides his connection with the Association of Class Secretaries, of which he was executive officer for the first six years, he was Secretary of the Class of '82, and successively Vice-President and President of the Alumni Association and Term Member of the Corporation.

"Those of us who were associated with him, miss him sadly. His work was done, and well done — modestly, effectively, devotedly. The greatness of our institution is built upon such records as his."

(Signed)
Isaac W. Litchfield, '85
Frank L. Locke, '86
Thomas B. Booth, '95

NEWS FROM THE CLASSES AND CLUBS

1873

Two members of our Class have passed on. Edward Hale Greenleaf of London, England, died on February 4. He was former assistant curator of the Museum of Fine Arts in Boston and a native of Worcester, Mass. He was a bachelor and a charter member of the Boston Tavern Club. After leaving Boston, he lived in Santa Barbara, Calif., until he went to London thirty years ago.

Randal Whittier, registered in the Class of '71, died at Beaumont Inn, Harrodsburg, Ky., on February 10. He was a native of Boston but had made his home in Kentucky for over forty years. We all remember him, a man of gentle breeding, scholarly attainments, and personal integrity.

We are sorry to learn of the serious illness of Samuel M. Felton, dean of Chicago rail executives. He is chairman of the board of the Chicago Great Western Railroad. The present membership of our Class is seventeen. We are all looking forward to being present at the All-Technology Reunion in June. — GEORGE M. TOMPSON, *Secretary*, 8 Whittemore Terrace, Wakefield, Mass.

1875

The Class held the Forty-Eighth Annual Dinner Meeting at the Engineers Club in Boston on January 25. Replying to the inquiries, why the Forty-Eighth, here is the answer in brief. On October 20, 1871, the Class perfected an organization and meetings were held spasmodically during the four years we held forth at the Rogers Building, and after graduation it lost out completely. In 1882, by the combined efforts of Hammatt and Hibbard, a reorganization meeting was called, when a constitution and by-laws were adopted and the name of the society was changed to the Class of '75, M. I. T. Hibbard was elected President and has served continuously ever since. Cabot was the first Secretary. The first annual dinner meeting was in 1882 and one has been held each year thereafter. In 1885 Cabot resigned and Hammatt was made Secretary, Treasurer, and Historian. We all appreciate how faithfully he kept the interest of the Class alive for forty-two years. He has been called the best secretary of any class. It might be added that the historic achievement by the first organization of the Class was *The Spectrum*, the first paper published by Technology students. Incidentally, I was the editor-in-chief, and it has been said that that was the cause of its short, eventful life.

Those present at the Forty-Eighth Annual were: Atkinson, Dorr, Hibbard, Homer, and Warren. Bush sent regrets that he could not be with the boys. He continues on the job with the Wabash Railway, and travels out from St. Louis thousands of miles each month. Lyman wrote that he would leave for California, via the Panama Canal, on the day of the dinner and that he would be with us in spirit. Nickerson has been seriously ill, most lost the vision of his right eye. He sent the glad tidings that he was much improved and "hoped to attend the dinner next year and meet old classmates and friends." Prentiss and Mrs. Prentiss left for Wilbur-by-the-Sea, Fla., where they have a bungalow, the week before the dinner. They plan to return to Holyoke early in April.

With profound sorrow tributes were read of Wilfred Lewis and Lincoln, which were adopted and ordered placed on the class records, and copies were sent to their families. By their deaths the Class has lost two much-loved members who continuously, from the day of graduation, successfully followed the profession which they learned at the Institute.

For the sake of discussion, Dorr suggested that the Class do not attempt to have another annual dinner. This was strongly opposed by Hibbard, and Warren recalled that it was the unanimous desire, when the society was reorganized in 1882, that so long as two of the Class were able to meet there should be an annual gathering. This was voiced in subsequent years and this was the urgent hope of Goodale and Wilfred Lewis in 1927, when, on the death of Hammatt, it became necessary to elect a Secretary. No formal motion was made, but it was emphatically decided to hold the Dinner Meeting in 1931 as usual.

The forthcoming All-Technology Reunion in June was the next topic to be considered. In view of the fact that at the recent Annual Alumni Dinner there were but ten at the table for the Classes '68 to '78, it was proposed by Hibbard that a move be made to have these ancient Classes unite for a joint dinner on the evening of June 6, rather than for each Class to flock alone. As the Secretary was arranging to be away for two months or longer, he requested that Hibbard confer with the Secretaries and members of said Classes on this head, which met with acceptance. A general talk followed over the cigars for an hour and more of the halcyon days of 1871 to 1875 and of the astounding changes which have taken place, when the meeting was adjourned with the hope that we all report present in 1931.

At the January Alumni Council Dinner I was the guest of Hibbard who lost no time in boosting the move for the old classes to unite for the June Reunion. The idea meets with hearty approval. This was an interesting session of the Alumni Council, unexpectedly so. Professor Prescott gave an enlightening talk of the movement on foot to bring the students and members of the teaching staff into more perfect harmony, to clear the snags and misunderstandings on each side of the fence for the good cause. Thomas C. Desmond, General Chairman in charge of the Reunion in June, came on from New York to report on the contemplated doings. Since then I have attended Technology functions in New York, Philadelphia, and Washington, and it is assured beyond any peradventure that the Reunion will prove a "humdinger plus," as one enthusiast said. These notes are written at the University Club in Washington, where, seemingly, four out of five of the Institute men are counting on attending.

Cabot and his wife are to sail for Italy on the *Vulcania* on June 19. They plan to spend a year in northern Italy. Dr. and Mrs. Cabot, who studied medicine with her husband in Europe, have been married fifty-three years.

In the February Review the death of Pierce was erroneously chronicled in the Class Notes and I am unable to explain how it happened. Providentially, he has forgiven me and rather enjoyed reading his obituary. We had luncheon in New Haven on a gloriously perfect day in February, when he reminded me that he is a Son of the American Revolution.

Sherlock died in California on December 18, 1929. Before he retired in 1926 and moved to the Coast, he took a lively interest in the Technology Club of Cincinnati. I have a happy memory of outings with him on the Ohio River in the jolly long ago. Back in the Seventies Thomas Sherlock, his father, was the President of the company that owned the finest, fastest steamers and there were races which were the talk of the country. Do the youths of today have the good times of those of the Victorian era, I wonder?

Acknowledging the tribute of the Class to Wilfred Lewis, Mrs. Lewis wrote that he died near Colombo, Ceylon, on December 19, and not on the Mediterranean ten days later. A memorial service was held at the First Unitarian Church in Philadelphia on February 15 which was most impressive. Reverend Frederick P. Griffin, the pastor, told his personal love and esteem of Lewis, of his high ideals and worth, in words of deep sincerity. Officers of the Philadelphia Society of Ethical Culture, the American Society of Mechanical Engineers, the Franklin Institute, and the Taylor Society for Scientific Shop Management, of each of these organizations Lewis was an honored member, spoke feelingly of their loss. Professor Buckingham represented the Institute and I was fortunately present for the Class. Professor Buckingham had been associated with Lewis for twelve

1875 Continued

years in his study of gears. He says that this research continues at the Institute to good purpose and what, three years ago, Lewis expected would develop, has recently, practically, come to pass. — HENRY L. J. WARREN, *Secretary*, 1019 Beacon Street, Brookline, Mass.

1881

We have just received information that Charles F. Libbie, one of our non-graduates, died on April 24, 1927. He left the Institute in 1880 to go with the Libbie Show Print and continued there for twenty years. On account of ill health, he took up the farming business at West Acton and continued there until his death.

By the activity of the Post Office Department, two envelopes which I sent addressed to Miss Harriet A. Walker, 2212 Union Street, Berkeley, Calif., were returned marked "Deceased." I should assume that this happened rather recently. Miss Walker left the Institute about 1879 and went to New York City on mission work, and was at the State Library School there during 1890 and 1891. From 1892 to 1903 she was assistant in botany at Wellesley College, and from 1905 to about 1924 was an assistant in the Botany Department at the University of California in Berkeley. She studied at the Institute for two or three years under Mrs. Richards. She was a member of the Oakland Y. W. C. A., California Botanical Club, and the Central California Wellesley Club.

A recent announcement by the Boston Society of Natural History states that there are twelve living who have been members of the Society for fifty years or more, and Miss Susan Minns and Mrs. Jennie (Arms) Sheldon are among the twelve listed.

The program of the All-Technology Reunion suggests that many of the Alumni will bring their wives, or other members of their family, to the Reunion and that such will be properly allocated at the various festivities. One of the drawing cards in this connection will be the Tercentenary of the founding of Boston, and our classmates who will be there can thus add to their trip very pleasantly.

Harry H. Cutler writes me that he will surely be at the 1930 Reunion. He has permanently settled at Coral Gables, Fla., and has purchased quite a large place and has retained his membership in the University Club of Boston as his only connection here. He is playing a good game of golf in the low 90's, or better, swimming, attending dog and horse races, polo, *Jai Alai*, and so on, and carrying on a lot of experimental work in a machine shop in which he has his interests, adding to his list of eighty-odd patents which have already been taken out. — FRANK H. BRIGGS, *Secretary*, 390 Commonwealth Avenue, Boston, Mass.

1883

The Acting Secretary of the Class reports such little information as he was able to glean regarding the members of the Class. Horace B. Gale and Mrs. Gale took a trip to Europe last summer, a very interesting account of which was published by Mrs. Gale.

Harvey Chase writes that he is recuperating from a serious illness which confined him to Johns Hopkins Hospital quite a while last spring. He is putting in his time "bowling on the green, bathing in the sun, and taking short trips in the Florida sunshine." He reports that Mr. and Mrs. E. K. Hall have been visiting there lately. — George Bryant and Mrs. Bryant have been staying home, in Newport, taking things easy. — Underwood writes, under date of February 19, that he has nearly recovered from a serious operation which he underwent last fall. He was the only representative of the Class at the Alumni Dinner. He reports a rumor that George Smith has been somewhat under the weather.

The Secretary hears from Mansfield once in a while. He is in Tampa, Fla., and interested in phosphate properties. — The Secretary has little to report except that he fell into the hands of reporters recently, and obtained more or less newspaper notoriety in connection with some research work on cottonseed. — DAVID WESSON, *Secretary*, 111 South Mountain Avenue, Montclair, N. J.

1885

Topic A is, of course, the approaching Forty-Fifth Reunion of '85 on June 19, 20, and 21, at Ev Morss's establishment at Manchester, Mass. The broadside announcing it brought a lot of appreciative letters of acceptance and the prospect for a large attendance is very bright. Ev seems to think the pleasure is all his, his only worry being that somebody may not come. He says he is making preparations for the complete roster and doesn't want anything left over to mess up the icebox. He is now on a trip around South America and the Secretary would like to have a fat bunch of acceptance letters to cheer him up when he returns about April 1. Those already booked are Brown, Cochran, Dewson, Frazer, Hunt, Litchfield, Little, Morss, Newell, Plaisted, Pratt, Schubmehl, Steele, and Worthington. We have never had two reunions that have resembled each other in the least degree and yet all of them have been delightful. This one will have a new note but a harmonious one. The setting will be changed but the atmosphere will be the same. It is the culmination of the lifelong wish of our host and he wants every last man to enjoy it with him.

It will be a shock to the Class to learn that Fred Kimball passed away on February 5, after a brief illness. The funeral services were held at his home at Marblehead, Steele, Plaisted, Schubmehl, and Litchfield representing the Class. Fred was born in Vermont in 1861. On leaving the Institute he became interested in electric lighting which was then in its infancy and he went into it in the energetic way he did everything. He started a business of his own, Fred M. Kimball and Company, but later disposed of it to join the Edison General Electric Company. When the General Electric Company was formed in 1893, he was made manager of the lighting supply department to which was later added the railway supply department, and in 1898 he was made manager of the small motor department. In this work Fred was perfectly at home. It was a field not hitherto cultivated by the company, and under his management, it developed rapidly. In connection with sales he originated what was first called the Kimball plan, but is now known as the motor dealer system and it is employed by all the large motor manufacturers. In recognition of his distinguished success, he was made advisory manager of the motor division of the industrial department in 1898. Fred was earnest, energetic, and genuine in every relation in life. He won the whole-souled respect of his business associates and neighbors as well as of his classmates. These qualities combined with organizing ability made a place for him in the company which will be hard to fill. He was true as steel and unflinching to the end.

Heywood Cochran was in Boston in November and was entertained at an informal luncheon by Little, Brown, Morss, Dewson, Pratt, and Litchfield. Heywood has plans for abducting Morris Greeley and lugging him to the Reunion if he will not come tractably. Heywood is becoming a real Chicagoan!

The summer and fall publications had much to say about the honors that were heaped on Arthur Little in England and all along his European line of march. Among other marks of recognition, he received the honorary degree of Doctor of Science from the University of Manchester and honorary associateship in the Manchester College of Technology. In "Industrial Explorers," Maurice Holland deals with some twenty laboratories, one chapter being devoted to Arthur's work.

Alex McKim sends a card from Siena, Italy, saying that he is taking a course at the *Regia Universita de Perugia*. After graduating from Technology, he took the architectural course at Columbia and then studied at Berlin. This is his fourth offense. At Perugia he is studying Italian literature and art. His new permanent address is in care of the Dresden Bank, Hamburg, Germany. Drop him a line.

The irrepressible Nute, with several associates from the vicinity of Fall River, are credited with contracting for a Goodyear Zeppelin which will be used for commercial purposes. It is to be delivered in May and it is expected that he will taxi up to the June Reunion in it.

Some time last year the *Boston Herald* had a column or so on the prophetic utterances of one David Baker, who has retired and is living at Wellfleet on the Cape, in a house built by a Revolutionary ancestor. Dave predicts that the trend of the times will soon develop a labor party in the United States and tells why he thinks so. The article describes the Herculean job Dave did in Australia in completing a thirty million dollar steel plant in time to help win the War.

Fred Newell is a thoughtful, friendly soul and cheers up the Secretary by an interesting letter occasionally. The inter-

1885 Continued

ests of the Research Service are extending over a broad field and hold Fred's keen interest. The Service has just changed its offices to the new Shoreham Building, Washington, D. C.

We regret to announce that Robertson is suffering from writer's cramp which also affects his voice as far as his '85 dictation is concerned. He is garrulous only when he writes the advertisements for his red-edge shovels in the *Saturday Evening Post*, and they are certainly persuasive. The Secretary is in the market for one to take dyspepsia medicine after three days at Ev Morss's place in June, but the sale will require personal solicitation!

Frank Cutter, who has been mislaid for a year or two, has turned up at 906 Fir Street, Inglewood, Calif. — Dan Lufkin's son, Elgood, was married in November to Mrs. John V. McDonnell. They are living at 730 Park Avenue, New York. — Ed Dewson made his usual trip to Florida early in the year with Mrs. Dewson. They are stopping at the Polk Hotel, Haines City, Fla.

Oh yes, John Lyman will also be on deck at the Reunion. He booked up five years ago. Then Jim Means and Sid Parsons live in Manchester so that they will drop in. Ev will save something for them. Add these three to the fourteen choice selections in our society notes and we have seventeen. Looks like more than thirty. Everybody longingly hopes that Chippy Chapman will repeat again this year. It did the graybeards good to hear the patter of his little feet at Wianno in 1925. Chippy's presence would make the Reunion complete. — ISAAC W. LITCHFIELD, *Secretary*, Hotel Wadsworth, 10 Kenmore Street, Boston, Mass.

1889

Theodore W. Pietsch died at Baltimore on January 1. The Baltimore *Evening Sun* contained the following notice: "Mr. Pietsch was one of the most distinguished architects in Baltimore. A native of Chicago, where he was born on October 2, 1868, he was graduated from Technology in 1889 and then went to Paris as a student at the École des Beaux Arts. Here he became steeped in the tradition of the French Renaissance and he was an ardent exponent of that school of architecture throughout his career. He received a diploma from the French Government in 1897 and was awarded honorable mention at the Paris Salon in 1898.

"Since 1904 he had practised his profession in this city, gradually achieving high recognition. Among his outstanding works here are the Eastern High School, Zion Church, the older part of the building of the United States Fidelity and Guaranty Company, the Association of Commerce Building, and the Jackson Place School. His most recent and, according to most observers, his most distinguished work, is the new church of Saints Philip and James on North Charles Street. This building, a carefully wrought limestone structure, in the best of the French style, already has received wide acclaim. Mr. Pietsch himself regarded it as his most characteristic effort."

The Boston *Evening Transcript* of December 21 in a story about the custom of placing lighted candles in the windows on Beacon Hill at Christmas Eve, stated that Mr. and Mrs. Hollis French were two of the four who signed the original call for this to be done many years ago.

Francis Hart's new book, "The Disaster of Darien," has been published by Houghton, Mifflin and Company, and it is a most entertaining story. — WALTER H. KILHAM, *Secretary*, 9 Park Street, Boston, Mass.

1891

The annual midwinter dinner was held at the Algonquin Club, Boston, on Wednesday evening, February 12. There were twenty-eight members present and two guests: Mansfield, Brown, Tappan, Wason, Swan, Punchard, Blanchard, Bowen, Dana, Fiske, Bradlee, Dart, Rogers, Garrison, Young, Douglass, Hatch, H. I. Cole, Capen, Colburn, Barnes, Forbes, Howard, Tyler, White, Bryant, Vaillant, and Aiken. The guests were Professor Clair Turner of the Biology Department of Technology and Leonard H. Nason, well-known writer of books and articles for the *Saturday Evening Post*. Harry Young, chairman, Arthur Hatch, and Gorham Dana were the dinner committee and made all arrangements, including the entertainment.

After the dinner, there was a short business meeting with President Bradlee in the chair. A nominating committee with F. C. Blanchard as chairman made a report which was unanimously adopted which, briefly stated, said that officers of the Class are appointed for life or until successors are named, and the Secretary is empowered to sign checks when necessary. The Treasurer reported a small balance and the Class still owns a $100 bond.

The Secretary reported that the following had passed on during the past year: Robert Bissell, James R. Blair, John Daland, Jr., William I. Palmer, Edward M. Weld, and George H. Wetherbee. The records show a total of 325 names, of whom eighty-five have passed on and fifty-seven have no known address, leaving an active list of 183. He referred to letters and cards received from various classmates. Wilder and Smith expected to attend the dinner but were unable to do so and sent their regrets and regards. He requested that all present have in mind news for The Review and urged that every member subscribe to it.

Professor Turner gave a very interesting talk and showed motion pictures of the movement of blood in the human body and the heart action, which are to be used for educational purposes in schools. It seems that this work was started by Professor Sedgwick several years ago and has been developed at Technology by the Biology Department.

Harry Young spoke of his many trips abroad and especially of his several visits to the battlefields of France, where his only son was killed during the War. He introduced his friend, Leonard H. Nason, the well-known author, who was with him on some of these visits. Mr. Nason was with an observation battery unit (if that is the correct name) during part of the War and had an unusual opportunity to know of the conditions along the battle front. He told of some of the conditions since the War and spoke humorously of some of his experiences, all of which were most interesting.

Dana furnished special menu cards, placecards, and fun-making specialties. The presence of Barney Capen added much to our enjoyment. H. I. Cole called for him in his auto and took him home, and while Capen has great difficulty in moving about, he seemed in good spirits, and he spoke feelingly of all that the Class has done for him.

Howard reported a total of seven grandchildren, and so far as we know, this holds the record. Mention was made of next year and our Fortieth Reunion, and plans will be started long in advance so that every one will be posted as to the time and place. Remember the approximate date, early in June, 1931.

The reports of several deaths have been received by the Secretary since the last news was published. James R. Blair, who was connected with the Whiting Milk Company in Cambridge, Mass., died on November 9, 1929. John Daland, Jr., who was city purchasing agent in Salem, Mass., died on January 25, 1929, after a short illness at the Salem Hospital.

Edward Motley Weld died on December 27, 1929. Albert Gottlieb sent in the following information about Weld: "He was born September 4, 1872, at Dedham, Mass. He was a special student at the Institute in the Class of '91. Later he entered Harvard where he was graduated in 1893. He married Sarah Lothrop King of Boston, who survives him with three children, Lothrop Motley, Edward Motley, and Anne King Weld. Also surviving are two brothers, Rudolph and Philip B. Weld. Mr. Weld resided at Tuxedo Park, N. Y., but generally took an apartment in New York City for the winter months. He died at 840 Park Avenue, New York, at the age of fifty-seven. The funeral was held at St. Thomas's Chapel on December 30.

"Immediately after graduation from Harvard, he joined his father, General Stephen M. Weld, in the firm of Stephen M. Weld and Company, at 82 Beaver Street, New York. He remained with this firm as general partner until its liquidation on July 1, 1926, when he opened a cotton department for F. B. Keech and Company at 52 Broadway, and subsequently enlarged it into the present commodities department. He was a member of Weld and Company of Liverpool and a member of Liverpool Cotton Association, Ltd.

"He was a member of the New York Cotton Exchange for thirty-three years, serving on the board of managers for thirteen years, as Vice-President from 1907 to 1908, and as President from 1921 to 1922. He was also chairman of the conference committee in 1914, contributing much to reopening the Exchange after it had closed at the outbreak of the World War. Trading on the Exchange was sus-

1891 Continued

pended from 11 A.M. to 11.02 A.M. in his honor on the day of his burial, and a committee of fifty-five prominent members was appointed to attend the funeral.

"He was a keen sportsman, particularly interested in shooting, fishing, and horses. In 1900 he played on the Dedham polo team which won the United States championship that year. For a number of years he owned a racing stable with the late Temple Gwathmey, operated under the name of 'Mr. Cotton.' He owned the famous steeplechaser Weldship and was a trustee of the Temple Gwathmey Memorial Steeplechase Association.

"Among his clubs were the Somerset of Boston, the Old Hall and Racquet of Liverpool, International Sportsmen's and Bucks of London, and the Union, Tuxedo, Turf and Field, India House, and Harvard Club of New York."

Eli Bird sends in some interesting news about his work on bookplates. He is still with the New York *Times*. "This last year was my best in the designing of bookplates. I now hold the record of plates used in the libraries in our American colleges, namely, fifteen bookplates in eleven colleges. I have been President of the American Society of Bookplate Collectors and Designers for six years. I am now making an untiring effort to design the balance of the State D. A. R. bookplates which are remaining undesigned in the Memorial or Continental Hall in Washington, D. C. I designed the plate for Massachusetts some time back and the January issue of their magazine mentioned me as being among the four greatest designers in the country. (As a matter of fact, the three mentioned with me have all passed on: Smith, Spencely, and French.) I am the only designer who has ever had his work engraved by these three men." — HENRY A. FISKE, *Secretary*, Grinnell Company, 260 West Exchange Street, Providence, R. I.

1893

Regularly appointed monthly luncheons of class members in and about New York are being held at one o'clock in a private room at the Railroad Club, 30 Church Street, New York, on the last Friday in each month, January to April inclusive, and also on May 23, 1930. At the first luncheon on January 31, there were present C. V. Allen, G. T. Blood, J. A. Emery, H. N. Latey, F. W. Lord, F. D. Richardson, J. I. Solomon, P. H. Thomas, W. C. Whiston, and S. E. Whitaker. It is hoped that out-of-town men who may be in New York on April 25 or May 23 will come to the remaining luncheons, and while advance notice is not necessary, it will help if they will drop a line to James A. Emery, 39 Broadway, eighteenth floor, or telephone his office at Digby 3200.

Mr. and Mrs. Herbert Nathan Dawes announce the marriage of their daughter, Mary Terese Langan, to Laurence Harrison Matthews, on December 28, at St. Malachy's Church, New York. — Theodore T. Dorman and James A. Emery are both deacons of the Union Congregational Church of Upper Montclair, N. J.

One of the outstanding developments in the sanitary field, the Baldwin Filtration Plant at Cleveland, Ohio, has recently taken concrete form and is ably described in the February 1930 *Proceedings of the American Society of Civil Engineers* by J. W. Ellms and three other members of that Society who were associated in the planning and building of this plant. For many years Ellms has been engineer of water purification and sewage disposal in the department of public utilities in Cleveland. He is the author of a textbook, "Water Purification," and has achieved international repute for his work in the field of water purification.

James A. Emery, Vice-President of the engineering firm of Ford, Bacon and Davis, Inc., was recently appointed by Mayor Mackey of Philadelphia to represent the executive branch of the city in the expert conferences preliminary to the adjudication of the fiscal relationship between the city and the Philadelphia Rapid Transit interests. Associated with Emery in this work are S. W. Swaab, transit consultant to the City Council, a representative of the city comptroller, and a representative of the P. R. T. Company. The committee is to review the entire Philadelphia Transit situation and work out plans for a solution of all the problems in connection therewith. This Philadelphia appointment is not the only distinction which has recently come to Emery. He writes, "Whenever the roll of granddaddies is called, I am now entitled to stand up. My daughter, Mrs. Kerby H. Fisk of Cleveland, has a little girl born November 21, 1929."

Edward Page, President of the New England Coal and Coke Company, Vice-President of the Mystic Iron Works, and actively identified with other coal and steamship companies engaged in wholesale coal trade, has a son, Edward, Jr., who, last fall, successfully passed the competitive examinations necessary for entrance to the United States Diplomatic Service. After serving for a short time as Vice-Consul at Montreal, Edward Page, Jr., was nominated by President Hoover to be a Secretary in the Diplomatic Service, and on February 1, the State Department announced his appointment as Third Secretary of Embassy and his assignment to Tokio, Japan. Mr. and Mrs. Page announced in February the engagement of their daughter, Priscilla, to Winthrop F. Potter, S.B. '22 and S.M. '23.

In the death of Warren Dudley King on January 4, the Class has lost one of its devoted and well-liked members. He was graduated with the Class in Electrical Engineering and the following account of his career appeared in the Boston *Evening Transcript:* "Warren D. King, general manager of the Municipal Electric Light Department in Peabody and one of the best known citizens of the community, died in Peabody on Saturday. The city government inaugural ceremonies, which were to have been held there on Monday were postponed until Thursday. All public buildings had their flags at half staff until the funeral services on Tuesday.

"Mr. King died at the Thomas Hospital as a result of injuries sustained in an automobile accident last September. He was a native of Peabody and had always lived on Lowell Street. He was born on August 1, 1870, the son of the late Eben U. and Mary King. He was graduated from Technology in the Class of '93. Following his graduation, he was associated with several construction companies as an engineer, later entering the employ of the city as a supervising engineer. In 1912 he was made manager of the city's electric lighting plant.

"Mr. King was always active in civic affairs and was a former director of the First National Bank of Salem, a former member of the finance committee and a trustee of the Warren Savings Bank. He was the first President of the Peabody Historical Society. At one time he was active in politics and served as chairman of the local Republican committee.

"He was a member of the State Municipal Lighting Association for twenty-three years and for the past nineteen years was Secretary and Treasurer of that group. He was a member of the American Institute of Electrical Engineers; an honorary member of the State Fire Chiefs Club; the Essex County Electrical Club; and was President of the State Wire Inspectors Association at the time of his death. He was a member of Jordan Lodge of Masons, Royal Arch Chapter, and Winslow Lewis Commandery, Knights Templars." He married in 1894 Miss Susie B. Baker. He is survived by his widow and two children, Louise and Eben, and by a sister, Mrs. William F. Abbott of Lynnfield.

Charles A. Tripp, who was graduated with the Class in Electrical Engineering and who, after a varied industrial career, rose during and subsequent to the World War to a position as one of the country's foremost munitions experts, died at his home in Wilmington, Del., after a short illness, on February 11. For three years following his graduation, Tripp was with the Westinghouse Electric and Manufacturing Company of Pittsburgh, starting in the company's shops, then spending a year and a half in the engineering department on motor design, and the last year on street railway equipment installation. Then for two years he was manager of the Municipal Light and Power plant of his native town of Hudson, Mass. In 1898 he became engineer for the Bemis Brothers Bag Company, of which our own Farwell Bemis is President, and for five years was in charge of building construction at the company's several plants, and also was engaged in developing several machines for bag cutting, printing, folding, and so on, on which he took out numerous patents.

From 1903 to 1916 he was a member of the firm of McMeans and Tripp, consulting engineers and factory architects, of Indianapolis, Ind., specializing in canning factories. In 1916, during the World War, he became factory manager for the Holcombe and Hoke Manufacturing Company of Indianapolis, which marked the beginning of his work in the development

1893 Continued

and manufacture of explosives. During his two years of service with this company, he was engaged in the production of rifle grenades for the United States Army and at the time was Secretary of the Rifle Grenade Manufacturers Association.

In 1918 he moved to Wilmington, Del., which place was thereafter his home, to become associated with Ernest du Pont and others in the Ball Grain Explosives Company which manufactured large quantities of munitions for the government. As plant manager of this company, he was engaged in loading rifle grenades for the Army and in the development of a flashless cannon powder for the Navy. His notable success in the development of flashless powder resulted in the organization of the United States Flashless Powder Company as the successor of the Ball Grain Explosives Company. Tripp became Secretary-Treasurer of the new company with which he remained connected up to the time of his death, this company being still engaged in the manufacture of flashless military powder for the United States Government.

Tripp was born at Hudson, Mass., on November 7, 1870. He was married on January 1, 1902, to Miss Nancy Wilson Brown, who died within the year. On December 27, 1904, he married Miss Elizabeth Minton Wright, who survives him. He was an active member of the First Unitarian Church of Wilmington, and made his home at 2003 Van Buren Street. Recently he had purchased a new home in Wawaset Park and was preparing to move there when he became ill. For several years Tripp had suffered from anemia. When his condition became worse and a throat ailment developed, he was removed to a hospital two days before his death.

An engineer of rare ability, vision, and sound judgment; a man of quiet modesty, happy disposition, and exceptional worth; the Institute suffers in Tripp's passing the loss of one of its representative and loyal Alumni and the Class that of a well loved comrade. — FREDERIC H. FAY, *Secretary*, 44 School Street, Boston, Mass. GEORGE B. GLIDDEN, *Assistant Secretary*, Box 1604, Boston, Mass.

1895

The Thirty-Fifth Reunion of the Class will be held Sunday and Monday, June 8 and 9, following the All-Technology Reunion, June 6 and 7. As the result of the referendum sent to each member of the Class, the dates, June 8 and 9, have been definitely settled. At the same time it has been decided to hold the Reunion near Boston, either on the North or South Shore. Further details as to final arrangements will be in the hands of every member about the time of issue of this number of The Review.

It is sincerely hoped that every member will endeavor to attend, if possible. The same plan as to registration and underwriting will be followed as used so successfully at the Thirtieth Reunion, five years ago. Every five years makes a great change in our membership. Do not miss it. Let us renew the old friendships. If you have any pet schemes or special stunts you want presented at this Reunion, send them at once as your Secretary will assume the responsibility of getting the most from your suggestions.

Apparently the great majority of the members must be contented and happy, either engrossed with their business or families, or too diffident to write as there has been a dearth of class information during the past few months. Wake up! Let me have a line or two so I can justify my position as your Secretary. — LUTHER K. YODER, *Secretary*, Chandler Machine Company, Ayer, Mass.

1896

Walter James had a very interesting experience last summer and has kindly supplied the following account of it: "Anyone who reads western stories, or who follows the advertisements of the western railroads, learns a lot about dude ranches. To be sure, he may learn many things that are not strictly accurate, but the effect is the same. Now, the reading of wild west tales has always been one of my favorite recreations, and vacation advertisements hold a great attraction for Mrs. James. Accordingly, when we were thinking up a way to celebrate our thirtieth wedding anniversary, we decided that we would find out for ourselves just what happens at a dude ranch. Then came the question of where to go. From the hundreds advertised we selected (purely by instinct) the Binko Dude Ranch in western Montana.

"On a very hot afternoon in late July the North Coast Limited deposited us at Missoula where we were met by Mr. Binko with a Buick that had reached the age of maturity but was still going strong. After loading us in with our luggage and several hundred pounds of bags and boxes of provisions for the ranch house, he headed northeast through the Blackfoot Canyon and finally brought us to the ranch, fifty miles from the railroad and two miles from the main highway.

"It appears that dude ranches may be divided into two classes: first, real ranches which take a few dudes or paying guests as a side issue; and second, so-called ranches established and maintained expressly as summer resorts. The latter are usually backed by men from the cities and the atmosphere is likely to be somewhat artificial (as are the prices also).

"Fortunately for us, the ranch which we had chosen proved to be one of the genuine kind, comprising about 1400 acres of range land and forest, with several lakes varying in length from one hundred yards to a mile and a half. About twenty to thirty guests can be accommodated in log cabins widely scattered among the trees. Meals are served in the main ranch house and shower baths and toilet conveniences provided in a separate log cabin centrally located.

"Immediately after arriving each guest is assigned a saddle horse which is reserved for his or her use exclusively. Mrs. James had never been on a horse, and my riding days all occurred previous to my entering Technology, so we wondered what sort of things would happen when we started riding on the trails over downtimber or among the gopher holes on the open range. Mr. Binko used a good deal of consideration in selecting a horse for Mrs. James, giving her a wise old veteran with strong muscles and steady nerves — also a strong will — and the most comfortable gait of his whole string. He seemed to be willing for me to do my own choosing, and after trying two or three, I ended up with a four-year-old mare named Ambition, very comfortable and safe, provided the rider kept his eyes open. She proved herself worthy of her name, particularly on several occasions when we stirred up hornets' nests. Then she did not care where she went if only she could go somewhere in a hurry. At such times a great ambition arose in me also, and a very strong desire to remain in the saddle.

"Our bones and muscles were pretty sore after the first few rides, but we soon got used to it. Also, during and after our first ride along a narrow trail on the steep mountain side, our nerves were pretty much on edge. But we very soon got used to this as well, and toward the last felt that a ride was tame if it did not include some climb along the high places where the world was spread out for us to look at and where a fall would send horse and rider rolling to a broken neck. But the horses do not fall, except once in a while a pack horse gets crowded off the trail and loses his balance because of the dead load on his back.

"We stayed at the ranch for a month, riding, eating, sleeping, and enjoying ourselves generally. We were then feeling in pretty good trim and not quite fed up on Rocky Mountain scenery, so moved on to Glacier National Park, intending to enter at Belden on the western side and take saddle horses across to the east side. We arrived there just when the forest fires were at their worst and no one was permitted to go in at Belden, and no one would want to after getting one look at the flames as they rolled up over the sides of the mountains at night. We therefore stayed on the train until it reached Glacier Park Hotel, took the horses from there, and with a guide followed the inside route for five days to Many Glacier Hotel, from which point an automobile carried us down the Blackfoot Highway to the railroad.

"The whole experience was very much worth while. We had a good time, stored up a goodly portion of reserve energy for future use, also a good stock of Montana dust, and — not least of the values derived — convinced ourselves that we had not grown too old to rough it a little, even though graduation day of '96 was thirty-three years behind."

The death of Charlie Ingalls was mentioned last month. The following obituary has been kindly supplied by his daughter: "Charles Henry Ingalls was born in Danvers, April 22, 1873; the son of Charles Nathan and Mary Morse Ingalls. He attended the local schools, graduating from the Danvers High School. On December 1, 1897, he married

1896 Continued

Nellie Florence Wilson of Danvers. They have five children, all of whom are living: George Alden, Hollis Francis, Grace Wilson, Miriam Ethel, Howard Albert Ingalls. Immediately upon graduation from Technology in 1896, he became associated with the Edison Electric Illuminating Company of Boston. He became head of the meter division, and meter engineer of the company. For many years he was very active in work of the National Electric Light Association Meter Committee, and was Chairman of the N. E. L. A. Meter Committee in 1916 and 1917. He was also representative of Edison Association on the Instrument Transformers Committee of American Standards Association. He belonged to various organizations: held the office of Noble Grand in the Odd Fellows, Master of the Masons (A. F. and A. M.), High Priest of the Royal Arch Chapter, Patron of the Eastern Star, and was a member of the Aleppo Temple, and Rebekah Lodge. For some years he was active on the Danvers School Board, and throughout his life maintained an active interest in the church (Universalist).

"My father for many years was intensely interested in his garden which occupied much of his time. Winters were spent in poring over seed catalogs and making labels for the plants; summers were spent in caring for the garden with its hundreds of gladiolus bulbs, lilies, tulips, and roses, of which he was especially proud. There were also many perennials and annuals, shrubs, fruit trees, and vines, and vegetables. I speak especially of the garden for it was his dearest hobby for many years. He was also greatly interested in photography — a love for which he passed on to the rest of us! Summer vacations were for many years spent in the White Mountains at Jackson, N. H. Week-ends were usually spent in the woods or at the beaches along the North Shore.

"For the past few years he was troubled with high blood pressure and was under the doctor's care, and had to give up work for a while. During the past summer he seemed to regain much of his former vitality and returned to work, although we knew that it was necessary for him to take care not to overdo. The month of July was spent happily in the mountains and visiting friends in Maine. It was on the first day at home, while spending the afternoon at a beach in Rockport that he passed away suddenly, apparently from over-exertion — heart failure — on August 4, 1929."

Eddie Mansfield, who saw Ingalls almost daily as a fellow employee of the Edison Illuminating Company of Boston, says that Ingalls was one of the foremost meter experts in the country and was looked up to in all matters pertaining to meter work or practice. His first position with the company was meter man and in that day the mechanical meter was coming into general use replacing the Edison meter and its development to the present-day standard was influenced in no small measure by Ingalls's efforts. The relay demand meter (Ingalls's type) was used in obtaining the billing demand on special rates. This meter was contrived and developed by Ingalls.

He was a man of simple tastes with no particular hobby outside of his family, his work, and his flower garden. He was distinctly a home body and although he turned out on special occasions such, for example, as the Jambouree Dinner of five years ago, he did not attend class functions. The funeral at his home on August 6 was attended by company representatives and many friends. In his quiet way he made a legion of friends in the industry where he was a recognized authority on meter engineering and these friends will miss him very much. His official activities represented only a small part of the dependence put upon him by his company in many other minor but important ways.

News of still another death among '96 men during the year 1929 has been received. Charles H. Morrill died at Hyannis, Mass., on November 27. No further details have been received. Morrill was not a man who was well known to his classmates, as he was with us for only our freshman year in Course II. His occupation was a school teacher, and for several years past he hadbeen located in Hyannis, Mass. He should not be confused with Guy Morrill who is very much alive.

J. Milton Howe was elected to the office of Vice-President of the American Society of Civil Engineers for the year 1930. Howe is senior member of Howe and Wise of Houston, Texas, and he has been a member of the Society of Civil Engineers ever since 1903.

The Secretary attended the meeting of the American Institute of Mining Engineers in New York in February, but was so tied up during his short stay that he was unable to get in touch with '96 men except that he saw Bradley Stoughton at the meeting. Stoughton was awarded in 1929 the Grasselli Medal of the American Chemical Society for his paper on "Light Structure Alloys." He reported that he is busy every minute and was due to present papers at various meetings, among them the Canadian Mining Institute in March.

While in New York the Secretary happened to notice in a New York paper an item to the effect that on February 20, Reverend Welles Mortimer Partridge, rector of St. Ann's Episcopal Church in Boston, was severely burned about the arms that day in New Haven in a fire which damaged his automobile. An explosion of gasoline in a camp light which Partridge was using in the rear of the machine caused the fire while the car was parked at the Berkeley Divinity School. An announcement addressed to the Class states that Partridge's daughter, Dorothy, was married on February 22 in New York City to Charles Anthony Ellsworth. It is presumed that Partridge was on his way to the wedding when his accident occurred. No further details have been received but it is hoped that his injuries did not prove serious and that he was able to give the bride away at the wedding.

Billy McAlpine telephoned Rockwell on February 24 that he was in Boston but so rushed that he could not see him. He said he was feeling fine and sent regards to all. — CHARLES E. LOCKE, *Secretary*, Room 8–109, M. I. T., Cambridge, Mass. JOHN A. ROCKWELL, *Assistant Secretary*, 24 Garden Street, Cambridge, Mass.

1897

Captain A. L. Parsons, U. S. N., has been nominated to succeed Rear Admiral L. E. Gregory as chief of the Bureau of Yards and Docks of the Navy Department. Captain Parsons entered the Navy from civilian life in 1903, and since that time has been connected with construction activities of the Navy in various parts of the world. His duties have been successively at Mare Island, the Philippines, the United States Naval Academy, the New York Navy Yard, Washington, the Philadelphia Navy Yard, the Republic of Haiti, and the Boston Navy Yard. During his stay of four years in Haiti he established an organization for the construction, maintenance, and operation of the public works and utilities of the Republic, and was decorated by the President of Haiti with a medal of honor for his services. During the World War he supervised the plans and specifications for all the public works of the Navy, and was awarded the Navy Cross. Recently he has been stationed at the Boston Navy Yard.

The Boston *Evening Transcript* for February 19 contained the following news: "Walter Humphreys, Secretary and Life Member of the Corporation of Technology, and Secretary-Treasurer of the American Association of Wool Manufacturers, has been elected President of the University Club of Boston. . . . As President of the University Club, Mr. Humphreys succeeds Natt W. Emerson. . . . Throughout his years at Technology he has been one of the most active members of the Alumni Association and is known to Technology men in all parts of the world." We believe the Club is to be congratulated on this selection, and trust that its progress will now proceed with even greater speed than in the past.

The second winter meeting of the members of the Class of '97 residing in and around Boston was held at the Union Club at 8 Park Street, Boston, on Monday evening, February 3. Through the courtesy of Jack Ilsley, a member of the Club, a wonderful dinner was served to twenty-eight stalwart classmates. After the dinner the men rose with some difficulty, owing to the amount they had eaten, and adjourned to a separate room, where an informal class meeting was held. The subject of the spring outing was taken up, with a special stress being laid on holding a Class Dinner on June 6, and after a lengthy discussion, it was decided to go to some country club for the afternoon of June 6, where we could enjoy ourselves, having dinner and a card party in the evening. It was decided after more discussion to include the wives and every man there agreed to try to put the thing across as a big success. As regards the place to hold this meeting and just when and how to get there, a bulletin will be gotten out in the near future. The men

1897 Continued

all expressed their hopes that the men away from Boston will make a great effort to come to this dinner and bring their wives.

After the meeting adjourned, we all played cards until the small hours of the morning. After the prizes had been distributed and the meeting had broken up, the men all expressed themselves as having had a wonderful time. Those present at the dinner were: John T. Alden, William Binley, Ralph A. Bowen, Charles W. Bradlee, M. A. Bridgham, Walter F. Buck, Louis F. Buff, John E. Carty, Luzerne S. Cowles, Charles R. Currier, C. H. Eames, John E. Gilman, J. M. Gilmore, C. L. Hammond, G. F. Hatch, Arthur T. Hopkins, Chester D. Hubbard, John P. Ilsley, Allen W. Jackson, Arthur A. Knighs, George S. Lawler, Ernest F. Learned, F. N. LeBaron, Frank E. Mansfield, Dr. A. P. Norris, E. R. Olin, E. C. Sargent, and H. E. Worcester. This is the largest gathering of the men in and around Boston that we have had since graduation.

A recent letter from John Collins advises us that he will certainly be on hand at the time of the All-Technology Reunion, and will attend the dinner on June 6. He says that the mill business is so bad that he has about given up hope that the textile industry is going to revive at all, and is not certain whether he will have to walk to Boston from Lawrence, or come on the cars.

We regret to report the recent death of Lionel Norman, who lived at Winchester, Mass., and who passed away on January 14, after being in poor health for some time. We extend to his family our heartfelt sympathy. — We are pleased to hear that Harry Worcester is again a grandparent, little William Jarvie von Rosenvinge having come into the world last January.

We are all interested to hear of the fine work that Charlie Breed is directing in Canada. This includes all construction work at Lucerne-in-Quebec, roads, water supply, and sewerage system for Seigniory Club, Log Lodge, and the log cabin colony. The writer has been told that Charlie Breed is considered the leading expert in the country in such matters. This resort project is being developed by the Lucerne-in-Quebec Community Association, Ltd., with headquarters occupying the twelfth floor of Dominion Square Building, Montreal, with branch offices located in New York, Philadelphia, and Boston. Lucerne-in-Quebec is a new 80,000-acre vacationland and only a night's journey from Boston. It is in the Laurentian mountain region, seventy-five miles west of Montreal, and forty miles east of Ottawa. Log Lodge, a new hotel being built there, unique and rustic, of French bowknot design, is constructed entirely of whole logs. It accommodates 300, and has a dining room with windows on three sides looking out on the Ottawa River flowing along below the hotel. The tavern will remind guests who have traveled abroad of taverns in England, for from heavily beamed ceilings to the great casks placed in the corners, it will have the atmosphere of the "Tight Little Isle."

One of the many unusual features of the Log Lodge will be the great lounge, a spacious room from which the atmosphere and appearance of a hotel lobby will be banished and which will be as welcoming and restful as a well-appointed living room in a luxurious woodland camp. Rustic furniture, wrought iron lighting fixtures, rugs, and wall hangings that are trophies of the chase and that come from the lodges of Indian blanket makers will add striking notes of warmth and color. Dominating this interesting room will be a circular, six-hearthed fireplace, centrally located, so that the cherry glow of its flames will be visible from all parts of the room. It also has a grill room, ball room, writing rooms, card rooms, and other public rooms.

The multi-wing architectural plan makes of each of the 140 sleeping chambers an outside room. Each will have a tiled bath. In addition to these rooms, there will be eight private suites, each one lavishly furnished.

Surrounding the Log Lodge, there will be found a wide variety of facilities for healthful and thrilling recreation at all seasons of the year. Stanley Thompson of Toronto, famous golf course architect, is creating a splendid 18-hole golf course that winds through the Laurentian foothills with each fairway screened from the others by deep borders of monarch trees. Instead of building tees square in shape, Mr. Thompson is molding tees that conform to the topography of the land. Brooks, pockets of bowlders, thickets, every natural hazard, has been utilized with the result that the course promises to be one of the most interesting in Canada. With mammoth dredges and derricks, a yacht basis convenient to the hotel is being built. Here sailboats, speedboats, and amphibian planes will find safe mooring. Within a mile from the yacht basin a modern airport is to be constructed, with excellent facilities for aviation activity. There will be completely equipped shops and hangars, and the plan of construction even includes a restaurant for the accommodation of sky travelers.

A rustic sports pavilion, heated for year round use and equipped to serve refreshments, bridle paths and riding stables, tennis courts, archery ranges, toboggan chutes, a two mile bobsled slide, ski jumps, and a fleet of iceboats are also recorded on the long list of recreational facilities to be provided.

Many miles of the far-flung territory within the boundaries of Lucerne-in-Quebec are to be reserved as a game and fishing preserve, with a force or wardens to guard against the intrusion of poachers. There are more than fifty lakes on the property, all teeming with trout, bass, maskinonge, and other gamey fish. Deer, moose, bear, foxes, and birds abound in the splendid hunting country.

A striking feature of the development of this marvelous vacationland is the establishment of the Lucerne-in-Quebec Seigniory Club, an exclusive club organization that will have its quarters in the famous stone castle, formerly known as the Chateau Papineau. This turreted structure was built by the celebrated Louis Joseph Papineau, formerly the seigneur of the widespread domain which is now Lucerne-in-Quebec. The fascinating building is to be restored to its former grandeur, offering perhaps the most luxurious and unusual club quarters in either the United States or Canada. Club members will have the free use of practically all Lucerne-in-Quebec recreational facilities, and also they will comprise the membership of a novel colony of log cabin vacation home owners.

George Wadleigh writes from New York: "Your letter was received, asking for notes from this part of the United States. I might say that happy is that country that has no history, and this should apply equally as well to most of the individuals making up that country. The City of New York and its immediate surroundings contain some forty members of the Class. What record could be better than that of the self-appointed committee that could get together, about thirty of these attended the Technology Club Dinner at the Hotel Roosevelt on December 2? To be sure that dinner came at the beginning of a week of A. S. M. E. activities, which caused many of us to have a very full calendar, but more than a full calendar was necessary to restrain the enthusiasm of the '97 men. Just what means were used to get out so many is a secret, but some say the ten dollar gold piece that it was reported Potter would place beside each plate had something to do with the crowd. You are given two guesses as to which side of the market Potter must have been on in November. It is needless to say that your correspondent was one of those present, assisting in the get-together spirit.

"To enumerate all of the members of the Class contributing to the occasion might sound like the roll call of Company D at the time of Harry Hawthorne's command of the Army of the Institute. Few of us knew of Hosford's musical ability until his rendition of the "Stein Song" stopped almost all other singers. How little most of us know of Hamilton's submarine service experience! He is a modest man, and his stirring naval experiences have never been related at the regular reunions. Do you know that Walter Spear now holds a Doctor's degree from Northwestern for his work in the removal of algae from water supplies by trisodium aluminate treatment? None of us have seen Tewksbury for years nor knew of his fine kennel containing several of the blue ribbon bulldogs of the country.

"Good old reliable George McCarthy was a bit fagged after his run-in with the bull market, but he is still able to get off his inimitable story of the Dutchman with the Jew's harp. Think of Archer Clark coming all the way from the Berkshires to join us and tell us of his adventures in capturing the paper-making machinery market with his $40,000,000 merger! Ben Howes is reported to be developing a unit pulverizer for coal, to be applied to locomotives and Jim Baker, who is interested, as usual, in

1897 Continued

foot clothing, says, "If skirts come down, why not shoes up — and incidentally my profits?" Jennings is now making insulated wire somewhere in New Jersey. Videto who has not attended a reunion since graduation got pried loose. Probably when New York demands fewer skyscrapers he will become a regular dinner attendant. Shepard, of flagpole fame, could leave his electrification of South American railroads long enough to tell us of his perilous climb up Aconcagua.

"Unfortunately the author's memory is too poor to mention the doings of all, and his memorandum slip containing the names cannot be found. Therefore, Father Confessor of the Class, these poor notes must suffice. As for himself, day by day he toileth, converting the noble forests into decorations for Union Square, instruction magazines for subway-riding youth, and ultimately packages to contain tooth paste, canned salmon, and shredded wheat. To do this he restrains the Bolshevistic B. T. U., and pulls apart the tenacious sodium chloride molecule and pours rich clouds of SO_2 over the mountain landscape, building for these operations ugly concrete structures in the peaceful mountain valley." — JOHN A. COLLINS, JR., *Secretary*, 20 Quincy Street, Lawrence, Mass. CHARLES W. BRADLEE, *Acting Secretary*, 261 Franklin Street, Boston, Mass.

1899

Herbert H. Starr has broken a long silence for which fact we are all grateful. He is in the business of bridge building and says that while such an occupation is of interest to him, he did not think it would be of interest generally except when the train "is held up." Starr has been in the erection department of the American Bridge Company for twenty-nine years and has helped to "raise quite a little iron." Just now he is helping build a suspension bridge over the Hudson at Poughkeepsie, N. Y.

D. C. Churchill, head of the Churchill Weavers at Berea, Ky., has extended a cordial invitation to the whole Class, as well as to the whole Alumni of the Institute to visit him whenever they are singly or in large groups coming through this neighborhood on their way to Florida or to the Southwest. He is on the Dixie Highway, Route 25. The scenery is good, the roads are good, and they will try to make the welcome good.

E. E. Pierce writes that he and Edgar P. Trask are connected with Theodore E. Ferris, naval architect and marine engineer, 30 Church Street, New York, and they are now working on the design for the mammoth liners for the U. S. Lines, Inc.

Lewis Emery writes from Bradford, Penna., that he and his brother are oil producers only, and as wells pump whether they are present or not, he is going about a great deal. He is going soon to visit his brother in Florida and will spend the summer in Europe. He writes that he is planning to be at the All-Technology Reunion of Friday and Saturday, June 6 and 7, and hopes to find many others of the old Class there at that time. It is none too early for us to be making our plans to take in the Reunion if our travels take us Cambridge way at that time.

Ben Hinckley writes from Hollywood, Calif., that he has been spending the winter out there and he is completely sold on the country. He ran into Fred Wightman who is interested in a date ranch. Ben and Mrs. Hinckley were guests of Wightman in a delightful home where the hot water supply was furnished by making use of the intense heat from the solar rays. This is a bit of news that would interest more than one of us.

Harry Mork of Brookline didn't tell me anything about himself, but he sent me news of Roland Stebbins who has an inn at Tessancourt, France, about thirty miles west of Paris. The name of this picturesque haunt is the *Closerie des Saules*, so named because of the willows ranging soldier-like beside the water courses. On every hand is the sound as well as the sight of water, for the estate is one vast aqueous labyrinth of ponds adapted to boating. Rivulets, sentineled by yellow iris, wander through brake and bramble tangles, between moss-grown masonry barriers, under foot bridges and around islands, small, but interesting and fascinating. The whole is made possible by an intricate system of dams, dykes, water gates, sluices, culverts, and canals. To the *Closerie des Saules* go all good Americans in Paris when they want a good time and an extra good feed, and it is the especial haunt of the members of the Association of American Volunteers with the French Army. For the visitor who wants somewhere to go not too far away from Paris, there is nothing better than a visit to Stebbins at Tessancourt, but those who are in the know advise prospective visitors not to procrastinate, for one of these days the vagrant spirit is going to reassert itself or its rights and the spell of Afghanistan or Little America will lure the host from his *Closerie des Saules*. Already, it is said, there are signs that it is nearly ripe for a fresh avatar. — W. MALCOLM CORSE, *Secretary*, 810 Eighteenth Street, Washington, D. C. ARTHUR H. BROWN, *Assistant Secretary*, 53 State Street, Boston, Mass.

1900

When we find ourselves facing a situation in which Crowell, the husky cranberry king from the wilds of Dennis down on the Cape, and the rotund Everett leaving the arduous duties as road commissioner of New Hampshire give up their valuable time to attend a class get-together, we perhaps can pass on to you in a small way the popularity of these occasional dinners which the local members of this famous Class enjoy. In all, twenty-four of the faithful attended as follows: Burns, Lawley, Ingalls, Brigham, Crowell, Everett, Leary, Bugbee, Stearns, Warren, Wedlock, Harry and Ike Osgood, Richardson, Fitch, Allen, Ziegler, Russell, Walworth, Bowditch, and the Secretary. A most pleasing meeting resulted, discussing the plans for the Reunion in June, partaking of a wonderful example of Chef Bridges's wares, and later settling some of the old scores on the alley. Well worth the time, was the verdict.

The dinner was the only event of news happening in the last month of interest to the members with the exception of the fact that all the committee chairmen are hard at work perfecting the details of the coming Reunion. — C. BURTON COTTING, *Secretary*, 111 Devonshire Street, Boston, Mass.

1901

One of my more recent letters commented on the rumor that C. A. Mace was at 1 Madison Avenue, New York City, and was Secretary of the Synthetic Organic Chemical Manufacturers Association. Mace has just written to confirm the rumor and to announce that he would be present at the next Reunion. Considering his vocational affiliation, I should say that he would be doubly welcome.

Nat Patch has been nominated for the presidency of the American Foundrymen's Association, an organization in which he has held many offices, most recently that of Vice-President. Nat is coming on, possibly this year, certainly next. — Arthur Hayden, who still guilelessly refers to himself as a designing engineer and is still with the Westchester Commission, is one of the authors of the Class. A forthcoming publication is the section on concrete for the "American Civil Engineers Handbook." Arthur is civil though designing, and a monograph on the rigid frame bridge is now in press with John Wiley.

Through the courtesy of Professor Charles Locke, I have additional information on the Madeiro family. Alberto, Alfonso, Emilio, and Salvador were all in Technology with us, the first three, if I remember rightly, in our Class. Later Benjamin and Julio were there for a time, and Salvador's son was graduated last June. I hope that the border sleuth, Charlie Auer, will take this additional information and follow it through.

A. Rosecrans Baldwin, whose name for years has ornamented our list of missing, through the agency of one P. W. Moore, has reëstablished contact, and I have recently had a very pleasant letter from him. While he is not certain of the Five-Year Reunion, he will pass through Boston early this summer and I hope to persuade him to join our own little party in June, 1931. I would suggest that members of the Class resident in Chicago or the adjacent private roads look up Baldwin, who is in Kissel, Kinnicut and Company, 120 West Adams Street, Chicago.

I have a screed from Ted Davis, who sends in on a data sheet the laconic notation that he knew he had one on his desk several years ago and that he sent it to me at that time. He makes an interesting suggestion that, as many of us are at or past the fiftieth milestone, I send out a questionnaire to compile certain sociological and psychological data. This appeals to me, although I fear that a Freudian note would assume the dominant pitch in the harmony. While, of course, some of the

1901 Continued

Class will not grasp my meaning, the less regenerate, and more erudite, will be familiar with a recent German treatise on the subject under the winning caption of the "Dangerous Age."

As the goods are on me, I add the following pathetic tabloid in four reels. "Two years ago Putnam and I prepared great feasts and bonfires to welcome our Secretary on his autumnal migration through the town." Nothing doing. "One year ago Putnam and I stood around the hotel with a brick in each hand to welcome the same fellow, same time." Less than nothing doing. "This year Putnam and I are going to bed early but will leave our latch strings out and pay our telephone bills one month ahead in case that, and so on." And if nothing is doing, "Next year Putnam and I will take ten yards of stout rope and go a manhunt up to Boston at the end of which there will be no further uncertainty as to any further year." Far be it from me to paint the lily, and I know that no genuine expression of regret from me will have the slightest influence on these two fifteen-minute eggs.

From the aforesaid Putnam I have also received the pleasing intelligence that he is mechanical superintendent with the Waterbury Clock and Ingersoll Watch Companies. He adds bitterly that "nothing interesting ever happens down here." I should imagine that if he were less mechanical in his superintendency, he could start something. My own experience has taught me beyond the shadow of a doubt that the town of Waterbury, Conn., can furnish a high grade of unadulterated hell at times, associated with the collegiate carnage in the adjacent town of New Haven.

J. P. Catlin lives at 210 West Eighth Street in Plainfield, N. J. Like Bill Pepperell, he is a Treasurer. There seems to be an almost Semitic and Gaelic affinity for these jobs in the members of the Class. Joe's activity is the Wood Newspaper Machinery Corporation. He adds that he has lived for years around the corner from Bill Vermilye and has only just discovered the fact. I fail to understand this, as Bill is no private road dweller.

Ted Brigham from the saccharine fastnesses — this is no imputation on the purity of the product — of the New England Confectionery Company, writes sadly that he is not going to Hollywood this year. You will remember that a year ago Ted put in a season in that American Garden of Eden which lacks only the domestic animals to be the prototype of the original — before you were I am — and I presume is still convalescing. More stuff here for Ted Davis's questionnaire, but Ted would never tell it. No canny New Englander confuses passion with asthma and the glycerine tear drop is no more artificial than the lucubrations of the MacPherson lady.

Chester Chubb is still in Lincoln, Neb., and he is President of the light, power, and traction companies. He disclaims any interesting news, probably because I got hold of a bowdlerized account of his life from one of the local papers. He evidently believes in letting well enough alone. He is not committed to the Thirtieth Reunion, but he acknowledges leanings. Let us hope that he is as stalwart a trencherman as his distinguished fellow townsman of Gargantuan fame.

The hour has struck, the Editor calls, the sigh of your relief wafts upward. — ALLAN WINTER ROWE, *Secretary*, 4 Newbury Street, Boston, Mass. V. FRANK HOLMES, *Assistant Secretary*, 250 Stuart Street, Boston, Mass.

1902

Farley Gannett has returned to this country after a trip covering several months in South America where his firm is engaged in public utility work. Gannett went first to Buenos Aires and traveled across to Chile. He reports seeing Pond in Santiago. He made the return trip from Chile to the Argentine by airplane, flying over the Andes.

August Hansen addressed the meeting of the New England Association of Plumbing Inspectors at their January meeting in Boston on "The Uniform Plumbing Code." He was a member of a committee of five sanitary engineers under the chairmanship of Professor George C. Whipple of Harvard who drew up this code. The committee was appointed by President Hoover while he was Secretary of Commerce. This code has been adopted in whole or in part by several states and nearly one hundred cities.

A Class Dinner has been arranged for the evening of Friday, June 6, at the University Club, Boston. This is the only opportunity in the Reunion program for classmates and their guests to gather as a group. On the following week-end, June 13 to 15, the Class will hold its annual outing at the Riversea Inn, Saybrook, Conn. It is hoped that classmates coming to the Reunion from a considerable distance can plan to take in this outing as well as the main affair. — FREDERICK H. HUNTER, *Secretary*, Box 11, West Roxbury, Mass. BURTON G. PHILBRICK, *Assistant Secretary*, 246 Stuart Street, Boston, Mass.

1905

Ben Lindsly wrote from Bartlesville, Okla., in December, "I returned to Bartlesville a couple of weeks ago after nine months of duty in Washington, and among a mass of accumulated mail I ran across your letter. It came shortly before my departure from Washington, and as at that time I had ten thousand things that had to be done immediately, I allowed your letter to escape me at the time. Mrs. Lindsly and I drove to Washington last spring and later on Martha left college (Columbia, Mo.) and joined us in Washington. I remained in Washington. By that time Bob had left Oklahoma University to take a summer job in the oil fields at Barges, Texas, a wild Panhandle town. Both kids are now at Oklahoma University as sophomores, Bob taking petroleum engineering and Martha majoring in art.

"My work as senior petroleum engineer with the Bureau of Mines includes research work relating particularly to the production of oil. Also I do considerable editorial work in connection with Bureau publications relating to petroleum. As the result of about three years' investigative work relating to the production of oil by applying vacuum to oil wells, a bulletin will be issued shortly on the subject designating me as senior author. My next work will probably relate to some phase of deep well drilling or production. The problems which have developed within the past two years, as the result of drilling oil wells to depths of a mile, a mile and a half, and looking forward to wells two miles deep, are numerous and sometimes a bit puzzling. Please excuse this lapse — I had not intended to talk shop.

"I often spend my vacations by driving some 800 or 900 miles down to the Gulf of Mexico in quest of large sized fish. Mrs. Lindsly usually accompanies me in these expeditions, which on one occasion at least turned out to be almost an adventure. I refer to the spanking we received from the tail end of that West Indian hurricane of a year ago in September. We escaped from our island to the mainland in time to see the frail bridge wash out behind us, and at the same time were — yes, I shall say — terrified by an immense water spout which came dangerously near — some 200 yards away."

Henry Buff has been pretty regular in attendance at class parties, joining in the activities but never doing an awful lot of talking. The following letter shows that he can shoot straight when he gets going on paper. "I am very pleased to announce that Buff and Buff have a home of their own now, a four story brick building down in Telegraph Square, 69 Dey Street, New York City. It has been completely rebuilt, and with a tapestry brick front and old-fashioned arch windows, looks like the home of an old Colonial governor. Bill Buff is in charge, and if any Technology man of any Class wants information about New York City history, past, present, or future, Bill will be sure to get it for him.

"Buff instruments began building New York City long before I was born and regardless of what becomes of New York City, or in what shape it is rebuilt, in four thousand years from today I feel quite sure that some of our bronze theodolites will still be operating. However, if automobiles increase in numbers, once in a while a transit gets bumped and that helps our repair department."

Having been a delegate to the Emperor of Japan's tea party and Prince Chichibu's garden party, it is not surprising that Harry Wentworth should have been selected to dedicate the new enclosed skating rink at Dartmouth. This he did on February 8 by dropping the puck between Captains Booma and Putnam to start the Dartmouth-Yale hockey game. Previous to this, his athletic fame seems to have been related more to golf tournaments at Brae Burn, though not as a competitor, so far as we know.

Again in February your Secretary met Herb Wilcox on the train to New York and the talkies were brought up to date.

1905 Continued

The same day a familiar yell, "Hey, Ros!" and a slap on the back on the busiest corner of Fifth Avenue and Forty-Second Street announced Andy Fisher. It was most unfortunate that circumstances prevented our stopping to talk it over. On our return to Middletown we learned that Elmer Wiggins had been here. Quite a Class Day. When an '05 man gets onto our side road we want to make the most of it. We were more fortunate when Bill Tufts called up one night from downtown. We passed a very pleasant evening.

Short letters from Ralph Hadley and Clarke Warren (he hadn't peeped for years) unfortunately contained no news that we could pass along to the Class. Eugen Kriegsman has recently had a Providence, R. I., address. We do not know what is up.

Percy Hill wrote a letter which could be reproduced only by halftone. After reading all around, up and down, front and back, we find that he is just "employed with" the Western Union Telegraph, 195 Broadway, and travels around the country a lot on business. The card on the envelope, however, reads, "Vice-President in charge of engineering" which is doubtless his modest way of making the announcement. He concludes with: "I have a wife, also a boy almost ready to go to Technology. I live in Ridgewood, N. J., and ride the Erie."

Bill Crowell writes from Portland, Ore.: "I came out here to work for Molly Whitehouse. Things went finely until the bottom dropped out of architectural work in 1913. After a few months Floyd Naramore, then architect for the School Board, took me on. In 1918 politics separated me from this job, but shipbuilding was good at that time, so I was able to do some draughting in that line. The next year I joined the force in A. E. Doyle's office. Mr. Doyle was a very capable man and was well known as the architect of most of Portland's outstanding downtown buildings. Something over two years ago he took in three of the older men in the office including myself, under the firm name of A. E. Doyle and Associates. Since Mr. Doyle's death we have carried on the office. We are getting our share of the work in Portland, considering that we have so many Technology men to compete with. Right now we are preparing plans for, or have under construction, alterations to Union Station, building for Pacific Tel. and Tel. Company at Klamath Falls, library for Reed College, and garage and warehouse for the Pacific Tel. and Tel. Company, which together will cost about $800,000.

"The local chapter of A. I. A. held its annual meeting last week and honored me by bestowing the job of Treasurer. In the frivolous part of the program each member was given a degree. My citation read as follows: 'To Bill Crowell from Boston, balance wheel of Doyle and Associates, who holds the mystery of the black bag, and who knows the combination of our safe, we confer the degree of Comptroller of Shorter Currency.' You see I still remind them of Boston because I still persist in carrying a green bag, not 'black,' which latter goes to prove that architects are color blind." — ROSWELL DAVIS, *Secretary*, Wes Station, Middletown, Conn. SIDNEY T. STRICKLAND, *Assistant Secretary*, 20 Newbury Street, Boston, Mass.

1907

James P. Alvey is with the Illinois Power and Light Corporation, Ottawa, Ill.

Arthur D. Pratt died at Short Hills, N. J., on December 31, 1929, after an illness of several weeks. In response to a letter of sympathy which your Secretary wrote to Mrs. Pratt, she replied giving some facts about Arthur's life. He was born in Brooklyn, October 26, 1882, was graduated from Princeton University in 1904 with a B.A. degree, and then was graduated with our Class in the Mechanical Engineering Course. In 1907 he became connected with the Babcock and Wilcox Company, boiler manufacturers, of which his father was at one time President, and of which his brother is now President. Arthur wrote several books concerning steam and waste heat utilization, also an article for the "Encyclopaedia Britannica" which appears in the new edition just published. Mrs. Pratt writes: "I do not know the title of the article as the check and glory came in November 29, 1929, just at the close of Arthur's life and he was too ill to tell me, but he realized it was an honor and was so pleased." Arthur is survived by his widow, Dorothea Curtiss Pratt, and two daughters, Dorothea, sixteen years old, and Mary Louise, fourteen. Arthur was not active in our Class, as his alumni interests were largely with Princeton, but probably members of Course II will remember him as a delightful, genial gentleman, quiet, but always cheerful and coöperative.

In the financial news of the Boston *Herald* of February 25, the following item appeared: "At the annual meeting of Sears, Roebuck and Company, J. M. Barker was elected a director succeeding William Hoch, retired." This is our Jim Barker, who apparently is prospering splendidly. Congratulations to him! — BRYANT NICHOLS, *Secretary*, 2 Rowe Street, Auburndale, Mass. HAROLD S. WONSON, *Assistant Secretary*, Int. Shoe Company, Manchester, N. H.

1909

The principal speaker at the meeting of the Detroit section of the American Society of Mechanical Engineers, held on February 17, was Mayo D. Hersey, chief of lubrication, Bureau of Standards, Washington, D. C. Hersey is probably the outstanding authority in this country on the technical aspect of lubrication.

In reply to a recent inquiry from the Secretary, Austin Keables writes that he is now with the Green Fuel Economizer Company, Beacon, N. Y., as assistant chief engineer. He says: "This work is very interesting because the art of power plant engineering is changing so rapidly. In our line there is a growing demand for air heaters, and pulverized coal at high ratings calls for cinder catchers and very high fan speeds. I have been mixed up with power plants most of the time since leaving Technology, having nine years of design and construction, six years of operation and maintenance, and now one and a half years of engineering in the manufacture of fans, economizers, air heaters, cinder traps, and so on. Besides this work, I spent three years in textile engineering."

Make your plans now to attend the All-Technology Reunion on June 6 and 7 at Cambridge. There will be no separate class outing, as we will join the other classes for the all-day outing. There will, however, be a Class Dinner on Friday evening, June 6, notice of which will be given later and will be posted at the Institute. An advance drawing by Chick Kane '24 of the '09 Dinner appears in the *Reunion Bulletin* dated February, 1930. — CHARLES R. MAIN, *Secretary*, 201 Devonshire Street, Boston, Mass. PAUL M. WISWALL, *Assistant Secretary*, Postum Company, 250 Park Avenue, New York, N. Y.

1911

Believe it or not, there were exactly eleven '11 men at Walker Memorial on February 17 for our first Class Dinner for 1930. It is rather weird the way that number holds, but it always seems to result in a fine time being had by all, so why worry? Gathered around the board in the newly and richly redecorated Faculty Dining Room were: Johnny Bigelow IV, Marshall Comstock VI, Dennie Denison VI, Cal Eldred VI, Jack Herlihy II, Hal Jenks VI, Harold Lord II, Charlie McManus I, Carl Richmond I, Dan Smith V, and Ted Van Tassel X, the latter making the trip from Norwich, Conn., where he now operates his Van Tassel Leather Company.

After one of Bert Bridges's typically fine dinners ('01 men please note), we discussed three major premises, as announced, and decided to attend Tech Show 1930 on the following Saturday evening, to have a stag dinner at the University Club on Friday evening, June 6, during the Reunion, with the ladies attending the evening function planned for them, and, of course, to include the ladies at our Twenty-Year Reunion in June, 1931.

As usual, after our dinner and talk-around, a majority of us adjourned to the alleys downstairs and had a spirited bowling match, with Herlihy's Hopefuls taking three out of four points from Van's Vandals. Johnny Bigelow was the white-haired boy with a single string of 125 and a three string total of 312, in fact Jack and Johnny had to carry almost the entire load, what with Dennie's low single string of 54 and Smitty's low three string total of 206.

Good old Don Stevens sent back a reply card saying that he favored a beef steak dinner, with aprons, no tools, everybody tell a story, no speeches, and trick prizes for the Class Dinner on June 6. For the big party in 1931 he suggested we go again to Saybrook, Conn., where we went

1911 Continued

for our Fifteen-Year Reunion in 1926. Opposed to this latter idea, it was the unanimous opinion of the eleven present at the dinner on February 7 that the much larger attendance we had at our party in 1921 at the Mayflower Inn, Plymouth, made it seem most wise to have our 1931 party in or around Boston. What is your opinion?

O. W. Stewart I went on the Appalachian Club outing with Mrs. Stewart at Jackson, N. H., in mid-February, so he had to send regrets for the Class Dinner, adding that we could surely count on him for the dinner on June 6. "Undoubtedly you know," he added on his card, "that Bill Hodgman II is now Mayor of Taunton, Mass." It was news to me, but I at once wrote a note of congratulation to Willyum and asked him to tell me all about it. That was two weeks ago and no reply has been received. Maybe they don't have mail deliveries in Taunton, because last fall I heard on good authority that Bill Burleigh II and Cap Besse II now had a hardware business there, but neither has answered my letters wishing them good luck.

Walter Allen XIII writes that he has "temporarily turned coal miner, and Stone and Webster say they need me in Pottsville, Penna." — We almost never see or hear much from Phil Avery IV, now a prominent Boston architect, but the other day in the Boston *Herald* we saw an attractive picture captioned, "Master's chamber in a Wellesley home." Below it read, "No black and white photograph can do justice to the color nuances of this master's chamber in the home of Philip S. Avery of Wellesley Hills. The walls are painted in pale green, the spatter floor has dark green as its predominating tone, the ruffled curtains are apricot, and the furniture is early American maple."

I ran across George Cowee III the other day on Boylston Street near the Lenox. George has done well in insurance and is a Vice-President of the Liberty Mutual Insurance Company here in the Hub. — Cal Eldred VI, in his capacity as chief engineer, has been prime mover in the recent completion of a building and equipment for a large paper machine of new and greatly improved design at the East Walpole plant of the Hollingsworth and Vose Company. Under his direction the company also recently installed a new stoker-fired boiler with water walls and air pre-heater at the West Groton plant.

The Stanford Wright Agency of the Penn Mutual Life Insurance Company of Philadelphia, with offices at 1 Federal Street, Boston, has announced the appointment of Harold G. Jenks VI as an associate member. Recently I got a new mailing address, Hillside Crossing, R. F. D. 1, Charleston, W. Va., for Phil Kerr II, and here is his own story: "I am now an engineer for du Pont Ammonia Corporation at their plant at Belle, ten miles up the Kanawha River from Charleston. I am division engineer for the alcohol division, but no orders will be filled. Anyway it is methanol. This is a very interesting plant (doing synthesis at high temperatures and using pressures of 1000 atmospheres), but I miss my friends in Boston, and, would you believe it from a Marylander, I even miss Boston *per se*."

In closing, it is a pleasure to call your attention to the active part '11 men continue to take in alumni affairs. We have five presidents and two secretaries among the local alumni clubs. The presidents are: Herb Angell IV at Portland, Ore.; Norm Duffett X, at Niagara Falls; George Forristall II, at Houston, Texas; O. H. Shenstone I, at Toronto; and Don Southgate IV, at Nashville, Tenn. At Richmond, Va., Don Frazier II is the active local Secretary. For this year Burleigh Cheney II is Secretary of the Club at Providence, R. I.

Well, I hope to see you on June 6 and 7 at the All-Technology Reunion at Technology, particularly at the '11 Dinner at the University Club, Boston, on Friday evening, June 6. Above all, don't forget our Twenty-Year Reunion in June, 1931. — ORVILLE B. DENISON, *Secretary*, 32 Reed Street, Lexington, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford, Mass.

1912

Your Assistant Secretary sends in this one because he knows that the native modesty of the Secretary would cause it to be overlooked. The Lewis-Shepard Company of Watertown, Mass., was written up in the February issue of *Factory and Industrial Management* for its courtesy toward visitors. It seems that there is a sign in the company's reception room which reads, "If you have left friends in your car, we extend to them a cordial invitation to come in." There is a photograph with the article showing a man with a brief case reading the sign and the pretty girl at the Information Desk is apparently saying, "Welcome, Stranger," or something like that. From all of which we gather that although Shep might prefer to receive cash customers for lift trucks, visiting classmates and their friends will be met with a cordial greeting any time they happen to be in town.

Antonio Romero I paid us a surprise visit recently. For the past ten years he has been engineer for the Public Service Commission of Porto Rico, his native land. Not content with his engineering training alone, Romero has devoted himself to law. He has taken a legal course at the University of Porto Rico and has been admitted to practice in both Federal and Insular Courts of the Island. This legal training was particularly valuable to him in connection with the handling of cases that come before a public service commission. Now Romero is seeking broader fields in which to use his experience. He has made the long trip to New York in connection with negotiations he is making to enter the service of a prominent American corporation. He is married and has two children, a boy and a girl. His family, still in Porto Rico, will follow him later when he is settled in his new work. Romero's temporary address is 301 West 108th Street, New York, N. Y.

In connection with the Five Year Reunion which is to be held on June 6 and 7, the Boston Committee is planning a Class Dinner for Saturday night, June 7. Ladies are invited and we propose to motor out to the Brae Burn Country Club, West Newton, directly after the President's reception.

Let's take this opportunity to renew acquaintances before the big Twenty Year Reunion, which is only two years away. Why not consider this dinner a general committee on arrangements for the big Reunion and come prepared to state how, when, and where this demonstration shall be held? — FREDERICK J. SHEPARD, JR., *Secretary*, 125 Walnut Street, Watertown, Mass. DAVID J. MCGRATH, *Assistant Secretary*, McGraw-Hill Publishing Company, Inc., Tenth Avenue and 36th Street, New York, N. Y.

1914

When an engineer goes in for finance, he certainly makes a hit. We have as our outstanding example, Buck Dorrance, who is a director of the Federal Reserve Bank of the District of Philadelphia. He now has a competitor in Charlie Fiske. The General Motors Corporation has sent out the following announcement: "At a meeting of the Board of Directors of General Motors Acceptance Corporation on February 4, the following additional Vice-Presidents were elected: Charles P. Fiske, in charge of domestic borrowing and financial sales operations. . . ." The phrase "in charge of domestic borrowing" makes a particular hit. When this announcement is received by the Class, I know that the line is going to form at the right, and will contain most of the Class of '14. It is a great relief to have some one in the Class who will now be able to take care of our domestic borrowing.

Dean Fales finally got away on his southern trip. When last heard from, he was basking in the sunlight on the beach at Florida. He also reported that he had been flying a bit. We can, however, guess to what island he was flying. Perhaps we can arrange to make our Twentieth Reunion a winter one, and all meet in Florida. We shall await Dean's report.

None other than our old friend, Louis Charm, turned up recently. He was seen strutting up Tremont Street, Boston, much as if he had acquired a substantial part of it. On inquiry it was found that Louis had landed another electrical contract, and if we judge Louis rightly, there certainly was a good slice of profit in it.

With forty per cent of the licensed radio receiver manufacturers getting into financial difficulties between September 1 and February 1, your Secretary has been exceedingly busy this winter on his own problems. He has, therefore, had little opportunity to initiate correspondence that would bring in material for these columns. He, however, does not apologize, because he feels that '14 men should be interested enough to send in their own news items.

1914 Continued

Get your bag out and be dusting it off. Remember the All-Technology Reunion in Boston, Friday and Saturday, June 6 and 7. Of course we are holding a private dinner of our own. It will be Friday evening, June 6. Reservations are now being received. — HAROLD B. RICHMOND, *Secretary*, 30 Swan Road, Winchester, Mass. GEORGE K. PERLEY, *Assistant Secretary*, 21 Vista Way, Port Washington, L. I., N. Y.

1915

The almost certain approach to zero for our column was happily halted by the following splendid letters. I am very glad to hear from so many of our men, and to all those who wrote, I send my thanks and appreciation for their interest and the news they sent in. You have already received the first warning of our coming Fifteenth Reunion, and after our meetings in March you will hear more definite plans. At any rate, think about it and talk it up with your classmates. Also, let me hear how you feel about it. Remember our Tenth, so this one should be very successful, some time around June 6 and 7, somewhere on Cape Cod.

From The Employers' Group, 110 Milk Street, Boston, old Gene Place writes: "I have just received your post card and certainly hope that the Fifteenth Reunion proves to be as pleasant and profitable as was the Tenth. As for suggestions, I have none, unless you institute a golf tournament. I am somewhat hazy as regards the Tenth Reunion, and I do not recollect anything except that I had a good time. It certainly was profitable to me from the standpoint of meeting old friends, and I hope that this coming June will hold as pleasant memories. Put me down as one of those who will attend."

From the Episcopal Academy, Overbrook, Penna., Greville Haslam sends the following: ". . . On June 6, 7, and 8 I expect to get no sleep as we will be signing diplomas, awarding prizes, marking final examinations, and engaging in the regular routine of a school closing. However, I will be with the crowd in spirit and hope that you will give them all my best. I have a family, counting boys and masters, of over 600, and the well-known sense of responsibility developed at the Institute keeps me here at practically all times when anything is going on."

Alf Clark I writes from the Bemis Brothers Bag Company, Omaha, Neb.: "Your post card announcement of the Fifteenth Reunion comes as another reminder to me that I have wanted for a long time to express appreciation of the way in which you have handled the work of Class Secretary. I know, without having tried it myself, that it is a hard and sometimes thankless task. You seem to have the faculty of giving a personal touch to your work and I, for one, want to express my appreciation. Unfortunately, it doesn't look as though things would shape themselves for me to make Boston for the Reunion and to attend the Class Reunion at Cape Cod much as I should like to do so. It is now something over ten years since I left Boston, and I suppose it is high time that I revisited the Hub. Nevertheless, facts are facts, and we might as well face them." This is a rather flattering letter, but really very gratifying to me, for I had begun to feel, or perhaps suspect, that my style of journalism or something was not getting over with my classmates. Appreciation, such as Clark so kindly expresses, is encouraging reward for my efforts. As long as I know you fellows like the column and get some interest from it, I can feel happy about this job. Thanks a lot, Clark, for that good letter.

Norman D. Doane writes from 2035 North Meridan Street, Indianapolis, Ind.: "I have been harboring for some time the secret hope that I would be able to get back to Technology this year for our Fifteenth Reunion. A long range forecast as to when a person can get away from business is so uncertain. Your post card notice, however, is driving me out from under cover. So I want to go on record as saying that I will be there unless something very much out of the ordinary prevents. As to suggestions about the place to hold the Reunion, I am glad to leave this to those of you who are nearer the scene of action and are more familiar with the terrain."

These fellows are apparently enthusiastic about our coming Fifteenth and are planning to attend. Let's hope the desire spreads to all the rest.

At the annual New York meeting of the National Paper Trade Association, I failed to see Ken King from Chicago and Allen Abrams from Rochschild, Wis., who always attend. At a luncheon I sat next to Charlie Paine II who is a manager at the Bangor mill of the Eastern Manufacturing Company. He has a big family of three or four children. He is coming down for our Reunion, and wants to be remembered to all his old friends and would like to hear from Charlie Norton II especially. Write him a note, Charlie, from out there in Newton.

The Boston *Herald* of February 28 announced "Marshall B. Dalton of Newtonville, formerly New England district manager, has been elected a Vice-President of the Liberty Mutual Insurance Company. He will represent the President in contacting large interests served by the company." This is our own popular Jack Dalton. Congratulations to you, Jack, and our best wishes to you for success in your new position.

So, since this Class has no motto or mascot, it might be apropos to have a First Lady of the Class. At any rate, Mrs. Gabe Hilton of Detroit and points west should qualify for some honorable mention in our class activities, for she is keenly interested in our class affairs and so solicitous of the Class Secretary. Gabe and Mrs. Hilton are motoring on for the Reunion. She will use the occasion to renew her old friendships in her home in Boston. They have a collection of etchings and prints, some of which they picked up on their wedding trip in Europe, but when I was there to visit them the collection looked like motion pictures. You all remember Gabe from the old days. Remember our Fifteenth Reunion. — AZEL W. MACK, *Secretary*, 377 Marlboro Street, Boston, Mass.

1916

Your Secretary sent out the usual quota of appeals for class news the past few weeks. Apparently everybody has been so busy earning his living or else being laid up with the grippe that practically nobody has replied to my heart-rending appeals. Here's hoping for better luck next month.

Al Lieber is now a Captain in the Engineering Corps of the United States Army. He sends the following interesting letter: "I find myself without any particularly strong excuse for my tardiness in answering your letter of January 9 asking for news, so, the usual apologies. As for news, I have very little. I am back at Fort Humphreys after an absence of seven years, glad to be back halfway north after two hot years on the gulf coast. My headquarters in Texas were at Galveston, and my work took me along the coast from the Sabine to the Rio Grande. My assignment was that of assistant to the United States district engineer, and there was plenty of harbor work going on to make the job interesting. While I was stationed there I took some time off to go to Europe to look at hydraulic research laboratories, saw much interesting work, and returned with the conviction that it will be a long time before I ever say that I know anything about a free channel. Another conviction was that Vienna is the place I have been looking for.

"Upon my return to Fort Humphreys, I became an author by order. My work is on training regulations for engineer troops and extension courses of the Engineer School. I am acquiring a liberal education and writer's cramp. On March 1 I finally step out of the fast thinning ranks of the bachelors. Of that, more news later. Ralph Millis is the only '16 man I see regularly. Last winter I ran into Charley Reed at the Union Station in Washington, and some weeks ago I saw Tommy Huff in a restaurant. Ralph is also still in the Army. He is just back from Panama, and is now by way of being a printer, being in charge of the Engineer Map Reproduction Plant at Washington Barracks. He remains a bachelor, probably in self defense."

Al is altogether too modest about his coming marriage. The truth of the matter is that the wedding took place at four o'clock on the afternoon of Saturday, March 1. The place was Emanuel Church, Chestertown, Md. The bride was Miss Isabel Atkinson.

Chuck Loomis from Detroit writes as follows: "I have just had a letter from Jeff Gfroerer, written a few days after his arrival in Germany. He had a very pleasant trip over and a few days in Paris, which according to him, were not at all hard to take. The city seems to have still the characteristics which some of us noted with considerable pleasure and

1916 Continued

interest when we were there. Jeff, when he wrote, was living at Weisbaden, one of the watering places on the Rhine, and commuted from there the four or five miles to the Opel plant. He spoke very highly of a certain kind of beverage, formerly consumed in this country, but now illegal. He seems to have no difficulty in getting it in Weisbaden.

"Tred Hine, who as you know, is here in Detroit with the Smith, Hinchman and Grylls Company, had a chance recently to go to Russia with Kahn on the work he is doing there for the Soviet, but, though Tred is still without family impediments, he turned it down. Milton Pettibone, formerly with Smith, Hinchman and Grylls here, is now working in Kahn's Detroit office. Phil Baker, Vice-President of the J. D. Baker Company, continues to hope that the Detroit real estate boom of 1924 and 1925 will eventually come to life again."

Every one will be pleased to know that one of our classmates, William G. Brown, was in charge of the safety tests recently conducted by the Guggenheim Foundation for the safest airplane. As you remember, Brown is Professor of Aeronautical Engineering at the Institute and is now on leave of absence. This safety competition involved very difficult and in some cases novel problems of testing methods. In their solution by the technical advisers and observers, Professor Brown, as chief observer, had a leading part. In some cases it was necessary to design absolutely new instruments for observation. Professor Brown in an article in a recent issue of *Aviation* tells of his interesting experiences in making tests on the various planes submitted to the Foundation.

Of course you have all been advised of the big All-Technology Reunion of 1930 which will take place on June 6 and 7. One of the big features of the Reunion is going to be the various class dinners to be held on Friday evening, June 6. The committee has already been appointed to make suitable arrangements for our dinner and I certainly hope that we shall have a sufficient number on hand to make the affair worthwhile. You will be advised of the exact time and place in due season so that you can make your plans accordingly. This Class Dinner will be a strictly stag affair, but special entertainment for the ladies is being planned for that same evening, so no excuses will be accepted. Here's looking forward to seeing you all this next June. — HENRY B. SHEPARD, *Secretary*, 269 Highland Street, West Newton, Mass. CHARLES W. LOOMIS, *Assistant Secretary*, 7338 Woodward Avenue, Detroit, Mich.

1917

E. A. Aldrin has been made Vice-President of the Stanavo Specification Board formed by the Standard Oil Company of New Jersey, the Standard Oil Company of California, and the Standard Oil Company (Indiana) to promote safe and rapid progress of aviation throughout the world. The main purposes of this Board will be to determine the requirements for petroleum products in aviation, establish specifications, and check the uniformity of Stanavo products. — Joel W. Campbell writes that he is still connected with The Angus Company, Ltd., of Calcutta, India, as Secretary and Director.

We are officially advised that Richard T. Whitney, formerly advertising manager of the Hood Rubber Company of Watertown, Mass., has very recently joined the McCall Publications staff and is now advertising representative for the *Red Book* magazine. Unfortunately, the official censor of The Review would not permit us to print verbatim the statement of what is now going to happen to that well-known magazine nor can we publish the very pertinent story with which Dick combated the exaggerated rumor received from the gossip champs. Nor can we put in the bid for business that is contained in the same correspondence but will content ourselves with saying that if you want to sell more of your product to the general public, see Mr. Whitney of the *Red Book*. "Classified ads offering for sale such items as broken-down hammocks, second-hand zithers, or other sanitary engineering tools are not accepted." — Mr. and Mrs. Samuel Clayman are the proud parents of a baby girl, Louise Roberta.

The night of Friday, June 6, we spend at the Corinthian Yacht Club. Arrangements have been made with the Club and several members of the Class have already jumped at the chance to go. We hope to have a very sizable group there and an exceptionally good time. The All-Technology Reunion headquarters on the following day, Saturday, will be the New Ocean House at Swampscott which is but a short trip from the Yacht Club. As yet no special arrangements have been made, except that there will be a Class Dinner Friday evening, but probably none will be necessary. Undoubtedly golf, tennis, boating, and other diversions will be provided, as will comfortable chairs for those of the piazza fleet who prefer to sit and talk with cronies. Let us hear from you as soon as you can. — RAYMOND S. STEVENS, *Secretary*, 30 Charles River Road, Cambridge, Mass.

1918

The hour when ye Review Editors unwind the clock and go take the class note cat in is already upon us, with scarcely a note to hide behind. Rolfe Folsom, Vice-President of the W. R. Ames Company of San Francisco sent us an unsolicited testimonial expounding the unqualified merits of central California and bemoaning the dearth of *bona fide* Technology graduates who should be enjoying said benefits. It was a truly friendly letter, deserving the B. T. U.'s it generated in the vicinity of the cockles (whatever they are) of ye Secretary's heart; especially since he stands in dire need of some forty by forty winks and does not feel like digging up news.

Ames should be encouraged, however, because we find that Frederick Philbrick was some time ago transferred from the Needham, Mass., home office of the Gamewell Company to take charge of the western district with headquarters in San Francisco. This moved the center of gravity of the Technology population 32.2 feet farther west of Hoboken (if you like statistics).

Philbrick was just nicely settled in his new house designed by Bill Wills when the order to take up his furniture and trek was issued. The moral is: if you want a big new job with a proper raise in pay that will take you to the promised land of warm weather, blue sky, and acacia trees, get Bill Wills to build a house for you. (They sell easily. Advt.)

Sad news often travels slowly as illustrated by the fact that the death of William Hartley in Milwaukee on October 29 has just reached us.

Clarence Fuller, who has been having such a fight with pneumonia in the East Orange, N. J., hospital, was operated on in February, and we rejoice to report that he showed a decided turn for the better. He hopes to be home by the middle of March and to be able to enjoy all the letters you people are going to sit down to write to him before you do another thing.

For the first time during the past year we fail to chronicle the engagement or marriage of a classmate. Ho, hum, perhaps old Saint Valentine is getting tired, too. However, it will soon be spring, and in the spring a young man's fancy. . . . But it's always springtime with us. — F. ALEXANDER MAGOUN, *Secretary*, Room 5-328, M. I. T., Cambridge, Mass. GRETCHEN A. PALMER, *Assistant Secretary*, 51 Houston Avenue, Milton, Mass.

1919

Most of the news for this month was obtained at a get-together of '19 men who live in the vicinity of New York. Eleven of these had dinner among the actor folk at Sardi's on 44th Street on February 25. Those present were Marshall Balfour, Art Blake, Fred Given, Oscar de Lima, Erv Kenison, Tom Lloyd, George McCarten, Fred Rasmussen, Karl Rodgers, Gene Smoley, and Don Way. Arrangements had been made to go to the hockey at Madison Square Garden after the dinner. Only five of the above were able to attend the hockey, but all who did voiced their opinion that the idea of having a dinner and a hockey game afterward was a good one.

Marshall Balfour left the dinner early to return to his home and pack up for an extended visit abroad. He is going to Athens, Greece, for the Rockefeller Foundation, and may be gone as long as five years. We understand that Marshall will do some work in connection with malaria and presume that it will be similar to the study of that disease in the State of Mississippi which he made during 1927 and 1928.

Gene Smoley was at the Bayway Refinery of the Standard Oil Company when the explosion and fire, recently recorded in the newspapers, occurred. We presume that he had quite an exciting time. — We learned in a round about way that

1919 Continued

George Fleming has left the United States Rubber Company and is now with the Corbin Lock Company, being located at New Britain, Conn. — Karl Rodgers has moved and is now at 530 West 113th Street, New York. The telephone number is Cathedral 3783.

Bob Bolan, who is engaged in work in connection with the manufacture of lamps and vacuum tubes at the Hygrade Lamp Company in Salem, Mass., was in New York the other day and had lunch with Don Way. We understand from Don that Bob believes this is an opportune time to buy a radio set. While we are on the subjects of visits, we would advise that your Secretary or Don Way would be only too pleased if wandering '19 men would call them up when they are in New York and, if possible, they would be very much pleased to take them to lunch. — WILFRED O. LANGILLE, *Secretary*, 144 Acme Street, Elizabeth, N. J.

1920

While the location of the tremendous Tenth Reunion of June 7 and 8 is not definitely confirmed so that I can spread the news at this time, I can say that the place we have practically decided on is very conveniently situated, not too far from Boston, and it is easy to get to for every one. It is large enough to assure ample and comfortable accommodations, small enough to assure privacy and full play of class spirit, affords complete and delightful facilities for golf and other sports, swimming and everything to assure a bang-up time, and with all this at surprisingly low cost, so that all in all there seems absolutely no excuse whatever for non-attendance on the part of every loyal son of '20. Any one desiring complete information at the time of publication of these notes should get in touch with Bud Cofren or with the writer.

Two notable weddings have taken place which will be of great interest to '20 men. Late in November Phil Wait was married to Miss Estelle E. Wellwood of Newton Center, a graduate of Radcliffe. The Class extends heartiest congratulations to you, Phil. Ken Roman was married early in December to Miss Bernice Freedman of Brookline at the Copley Plaza Hotel in Boston. Jesse Stam was the best man and Mark Hamburger was among the ushers. Ken's bride is a graduate of Smith. The happy couple went to Bermuda on their honeymoon. We wish you the utmost happiness, Ken.

My faithful assistant, Hank Pierce, tells me that George Dateo of Course II is working for the Boston and Maine, is married, and has three children. He told Hank that Levangie has an important position with the Standard Oil Company and was recently married.

At a recent meeting of the Boston Society of Civil Engineers at the Boston City Club, the Class was prominently represented by two of the principal speakers: namely Ken Akers, and Perc Bugbee, our two noted experts on fire protection. Ken is with Fay, Spofford and Thorndike, and Perc is with the National Fire Protection Association. The subject was fire protection engineering as applied to municipalities, and while we were not present, we understand from Benjamin West who was, that the boys went over big. — HAROLD BUGBEE, *Secretary*, 9 Chandler Road, West Medford, Mass.

1921

Watch for a class letter detailing '21's participation in the All-Technology Reunion scheduled for next June 6 and 7. Reserve those days for the Boston whoopee party — and tentatively hold open a day or so additional at the close of the big blowout for a special '21 Reunion, news of which will be sent you later.

D. P. Barnard X has been appointed to serve on the Stanavo Specification Board which consists of representatives of the Standard Oil Companies of New Jersey, California, and Indiana, who will determine the specifications of oil products which will be marked by these companies for aviation purposes. — C. L. Manneback VI is the author of an article in *Nature*, on January 18, on "Optical Anisotropy and Theoretical Intensities of Raman Lines in Diatomic Gases." — L. M. Hersum I has announced the opening of his office at 6 Beacon Street, Boston, as a consultant in the handling of structural engineering problems relating to bridges, highways, buildings, or foundations.

Joseph Lurie X who is in private chemical consulting work, whose address is 150 Amory Street, Brookline, Mass., tells us that J. J. Murphy X is in charge of power and real estate for the Carbide and Carbon Chemical Company with headquarters in New York, whence comes the news of his second arrival. Joe has a daughter two and a half years old.

W. H. Rose, Jr., XV is assistant superintendent of the Egyptian Lacquer Manufacturing Company, Newark, N. J. — S. M. Silverstein X-A is now with the Rogers Paper Manufacturing Company of South Manchester, Conn., having for the last six years been in Boston engaged in consulting work with Bigelow, Kent, and Willard. Sol's new address is 377 East Center Street, South Manchester, Conn. — C. H. R. Johnson II has left the Beckett Paper Company to become sales engineer for the Downington Manufacturing Company of Downington, Penna., manufacturers of paper making machinery. — Latest reports of A. L. Kerrigan VI give his address as with Charles H. Tenney and Company, 200 Devonshire Street, Boston, Mass. — RAYMOND A. ST. LAURENT, *Secretary*, Rogers Paper Manufacturing Company, South Manchester, Conn. CAROLE A. CLARKE, *Assistant Secretary*, Bell Telephone Laboratories, Inc., 463 West Street, New York, N. Y.

1922

A number of loyal friends have responded to the plea for news of what they have been doing. Hugh Shirey, who is now connected with Bonbright Company in Rochester, N. Y., writes as follows: "Here is a little news which might be of interest to some and will help fill up space. On January 17, I was married to Barbara Seelye Bottome, daughter of Dr. and Mrs. Ralph H. Seelye of Springfield, Mass. She is the granddaughter of the late Dr. Clark Seelye, founder of Smith College. We were married at noon and sailed the next day for Bermuda. We had a wonderful two weeks down there and have just got settled. The golf and swimming were perfect. Better go down. This noon I ran into Harry Junod ('21, I believe) who is in Cleveland with some iron and steel company. I am still in the investment banking business and like it as much as ever." Congratulations, Hugh!

Ham Williams, who is with the William L. Gilbert Clock Company, has also taken up his pen. He says, "You will probably be interested to know that my engagement to Miss Janet B. Sheldon was announced on September 28. She is the daughter of Mrs. Charles E. Sheldon of Rockford, Ill. She attended Miss Madeira's School and was graduated from Vassar in 1926. She is abroad at present and our marriage date is uncertain, but it will probably come off some time in June. Another piece of information which contrasts rather strongly with the above is that my Father died on January 20. He had been ill for some time but when his death occurred it was rather sudden and a great shock to Mother and myself." As we hear from you, Ham, there is a mixture of feeling. Many of us have experienced the loss of a father and know how you feel. May you and Miss Sheldon be very happy.

Tommy Thomson, too, comes to the fore. "I have been living in New York for about five years and it seems that your wanderings should have brought you this way and that our paths should have met. If you do find yourself in town, let's hear from you and we can do a little visiting together. As you probably know, I am safely married and we recently announced the arrival of Miss Barbara, who is now two months old, as sister to our youthful Bobbie. The two of them manage to keep us busy and we have come to the conclusion that it's much easier to raise the neighbor's children than it is to raise a family of our own. However, it is lots of fun and we would like you to come down to inspect the offspring."

A clipping from the Boston *Evening Transcript* reads as follows: "Mrs. Michael F. Bauer of Glen Ridge, N. J., has announced the engagement of her daughter, Mrs. Audrey Loder Coward of Rumson and Glen Ridge, to Lee Wingate Carroll of New York City, a graduate of Technology in 1922. Mrs. Coward is the widow of J. Mortimer Coward. She was graduated from Vassar College in 1922. Mr. Carroll is the son of John B. Carroll of Detroit, and the late Mrs. Carroll. He is a member of the Sons of the Revolution and is a descendant of Charles Carroll of Carrollton, signer of the Declaration of Independence. The wedding will take place in the spring."

The *Boston Herald* late in January announced the following engagement: "At a bridge party held yesterday, Mr. and Mrs. Edward S. Page of Melrose re-

1922 Continued

vealed the engagement of their daughter, Miss Priscilla Page, to Winthrop F. Potter, son of Mr. and Mrs. Jesse S. Potter of South Weymouth. Miss Page was graduated from the Brimmer School and from Smith College with the Class of 1927. At present she is attending the Cambridge School of Landscape Architecture. Mr. Potter was graduated from Technology in 1922 and received his M.S. degree in 1923."

It was certainly good to hear from Hugh, Ham, and Tommy. There are only two more issues of The Review, the May and the July. Let's hear from a bunch of the boys before we sign off for the summer. Best regards to you all. — RAYMOND C. RUNDLETT, *Secretary*, Daniel Low and Company, Salem, Mass.

1924

Russell W. Ambach was married on December 20 to Miss Ethel Madeline Repass at Winnetka, Ill. One of the many Wellesley girls to announce her engagement during the Christmas holidays was Miss Emily Taylor of Port Washington, N. Y., who is engaged to Lloyd Porter, also of Port Washington. And announcement has also been made of the engagement of Miss Jessie Sellers of Ardmore, Penna., to Kenneth B. Walton, now of 1530 Locust Street, Philadelphia. Our best wishes are extended to all six.

A letter from Bill Correale tells me credit should be given to John Holden and Harold Hazen for their support of our drive to increase the funds in the class treasury. It is not now too late for any who have not done so to send their check into Bill at 840 Mott Avenue, New York, N. Y. We are short of our quota and feel we are not amiss in asking your support.

My suggestion in a recent issue that the wives of the members act as social secretaries has produced one response. Please permit me to express my appreciation to Mrs. Nathan Schooler and hope that others will follow suit. Let me quote. "Nat is not connected with the Hart and Hutchinson Company of New Britain, Conn., any longer, but since last February has been general manager of production of the American Steel Furniture Company of 27 West 24th Street, New York, and we are now residing in Mount Vernon, N. Y. We have a little daughter, Ruth Gilda, who was born last June. If there are any Course II men in this vicinity, we should like to hear from them."

A letter from Al Cummings of my own Course XIV tells of another addition to his family, William Byron, born last August. He is still with the General Electric Company in Schenectady in the radio engineering department, although most of the department has been moved to Camden, N. J., in connection with the formation of the R. C. A.-Victor Company. He sent me a copy of the *GE Monogram* which I unqualifyingly state is an interesting house organ even to those outside the company. It contained an article about our President, Bill Robinson, in connection with his recent promotion which I previously reported.

I have before me a quite lengthy clipping from the Philadelphia *Public Ledger*, dated January 5, regarding the merger of Peirce-Phelps, Inc., and the Penn Phonograph Company, both distributors of Majestic radios. I will quote some of the high lights. "The new concern effective January 1 will continue to distribute Majestic radios and the new Majestic electric refrigerators to be announced this spring. The new concern has among its officers, W. G. Peirce, Jr., as President and General Manager, and C. M. Phelps as Secretary and Treasurer. It is expected that the concern will be one of the largest of its kind in the United States, serving eastern Pennsylvania, southern New Jersey, and Delaware, with a potential market of 7,000,000. They have branches at Harrisburg and Wilkes-Barre." Jim's and Charlie's address is 437–51 North Fifth Street, Philadelphia, at which location they have two-thirds of a city block, with 32,000 square feet of floor space and a two car siding. If O. O. McIntyre were writing this he would doubtless conclude by saying: "Two boys from the banks of the Charles in Cambridge who made good in the Big City." — HAROLD G. DONOVAN, *General Secretary*, 139 Girard Avenue, Hartford, Conn.

1925

From my home town paper, I learn that Malcolm MacDuffie is now on the Faculty of the Springfield (Mass.) Engineering Institute, instructing on strength of materials. Evidently Mac likes teaching, for after graduating he taught a year at the DeWitt Clinton Hubbard School, then was an instructor at the Institute until 1929. At present he is also in charge of the science courses at the MacDuffie School for Girls, of which his father is principal.

Mr. and Mrs. Derrick Norman Lehmer announce the marriage of their daughter, Helen Mitchell, to Charles Henry Blake, on Thursday, December 26, 1929, at Brooklyn, N. Y. Mr. and Mrs. Blake will live at 25 Queensberry Street, Boston, Mass. — Miss Helen Douglass Gardner and George Washington Elkins, 2d, were married August 10 at the home of the bride's parents in Lyme, Conn. Mrs. Elkins is a graduate of Radcliffe in 1924. — On December 28 Miss Margaret Banks Dorey was married to Sidney Warren Andrews. After the ceremony, which was held in Newark, Ohio, there was a reception at the Inn in Granville, where Dennison University, of which Miss Dorey is an Alumna, is located. — The engagement of Miss Doris Irene Farmer was announced to Philip Gruber on December 27, 1929. Miss Farmer was graduated from the Chandler Secretarial School in 1923.

Mrs. Frederick Winsor, Jr., won high recommendation in the small house exhibit sponsored by the House Beautiful Publishing Corporation by her design of a master's residence at the Middlesex School, Concord, Mass.

It is with regret that the death of James W. Pugh is reported. He was killed on March 6, 1929.

The weather here does not seem to be any more reliable than New England's proverbial type. A week ago it was well below freezing, and now after a few days of spring we are having a thunder storm.

By this time you have probably heard from Tom Killian in regard to our Reunion, scheduled for June 6, 7, and 8. Don't fail to make plans to attend, for it is going to be a real party! You will hear more about it from Tom, and I'll be expecting to see you in Boston along with the rest of the gang. — FRANK W. PRESTON, *General Secretary*, West Virginia Pulp and Paper Company, Piedmont, W. Va.

COURSE II

My cry for news has reached into far-off lands, for Toni Lauria responds with two splendid letters of unusual length. My last information was that Lauria was hibernating in Havana, but I now learn that he left last October for Brazil and expects to be there for an indefinite period. It would seem that Toni is destined to be a man of letters, particularly in his knowledge of Latin languages, for in addition to his fluency in Italian, he has now mastered Spanish and Portuguese. You will all be interested to read the following abstracts from his letter:

"The weather here is great in spite of its being so close to the Equator. I had expected to roast to death and that idea, coupled with all that I had heard, was enough to firmly fix the idea in my head. Imagine the pleasant surprise when I find the evenings nice and cool, morning temperatures comfortable until about nine o'clock, and then the day warming up to a maximum at about one o'clock in the afternoon. . . . The people here are for the most part either black or some varying shade of it, even up to white with kinky hair, so figure out what a poor breed they have. As for foreigners, English predominate with about sixty-five Americans in and about the city (Recife). . . . Conditions are rather poor for business, due to a general falling off in Brazil export value, chiefly coffee. It is certainly interesting to see people fairly well dressed go clanking up the street with slippers made of a wood sole, and toe covered with cloth or an old tube. Few wear socks. Of course all the office people and commercial agents wear shoes, although they are luxuries for all of the poorer class. . . . A city of this size in the States would have a great many trucks, but here most of the transportation of trunks, merchandise, and so on is carried about the streets in poor carts and on people's heads. Transportation surely goes to the people's heads for you cannot look out the door without seeing at least several people with some sort of bundle balanced there without any apparent effort.

"Now, what am I doing here? A lot of everything and not much in particular. At present I am in charge of truck tire sales, while in Cuba I was sort of service man on truck tires and manager of the repair schools.

1925 Continued

"Now talking about reunions — if you hold one about three years from June 1, I might be able to attend. Otherwise it will only be a flukey streak of luck if I get back before then.

"As regards travel, most of it is done by boat or plane along the coast. If you care to go farther inland, an automobile can be used for a relatively short distance, and the rest either ride horseback or walk. Rivers are practically all navigable and boat travel is an important factor in the interior of the country. Little by little I'm getting sold on this place. There are wonderful chances down here. One could make a potful of money in a short time if the government did not tax everything so high. The government usually finds more ways to tax business than any normal person can imagine. Where the money goes is a question which would be embarrassing to answer, for the higher officials, anyway. In spite of this, Brazil is progressing.

"The Amazon district still has many miles that have never been entered by humans. The southern part near Uruguay is fairly well settled near the coast and is used for cattle ranches inland. Practically all the coast of Brazil is well settled and little by little the interior will be opened up much more than it has been in the past."

Not content with the foregoing, Lauria forwards news of others in the Goodyear organization: Lloyd Irving is now working out at the Syracuse branch of the organization and Wade Johnson is in charge of tire testing at Akron. — Jim Holland is busy as an official engineer for the Heintz Equipment people. Toni also inquires as to the whereabouts of Irving Maclaren Symonds who, according to last reports was working for Inspiration Copper. Toni's address is the Goodyear Tire and Rubber Company of South America, 253 Avenida Tio Branco, Caixa 1757, Rio de Janeiro, Brazil, and he would be pleased to hear from any of the boys.

The directory for students of the Institute should be revised to include the name of Roger Otis Ward who, it is expected, will enter with the Class of 1951. The producers of Tech Show will undoubtedly subscribe to this fact with enthusiasm. He is expected to yell for '25 at the Reunion.

So much for this month's news. The edict still holds — no news, no notes. The Post Office Department in Boston is now efficiently operating under the supervision of a Technology professor and will be glad to take care of the heavy surge of mail from Course II men. — NELSON D. MALONE, *Secretary*, 184 High Street, Boston, Mass.

COURSE VI-A

George Conway has been transferred to the former sales department of the International General Electric and is with the New York office of that company. — Sam Caldwell is now in charge of the reserve division of the Electrical Engineering Department at Technology. — Ken Bainbridge was heading a national research fellowship in physics and is pursuing isotopes at the Bartol Research Station in Swarthmore, Penna. — Lynn Wetherill is with the General Electric Company in Pittsfield.

Francis Wilmot is now in the technical department of the American Brass Company at Waterbury, Conn. — Lenn Olson is now with the Northern States Power Company in Minneapolis. — Win Francis is with the Westinghouse in Bloomfield, N. J. — I have obtained a Ph.D. at Princeton. I am now teaching a combination of electrical engineering and physics here at Technology. I will be glad to hear from any of the crowd and I promise to answer all letters within a year. — THOMAS J. KILLIAN, *Secretary*, Room 4-212, M. I. T., Cambridge, Mass.

COURSE X

Take off your specs, Hiram, and let's reminisce. How long has it been since Course X has had any news? Yes, I know the Course Secretary is rotten but he hasn't been encouraged by the massive correspondence of the course members. At any rate, incline your ear to the following letter from Newell Watts in Fort Schofield, Hawaii, where he is a Lieutenant in the 27th Infantry: "It's been a long while since I have seen Doc Franklin's bow tie, or watched Doc Lewis dislocate his thumbs on the armpits of his vest. Reading The Review is almost as good as getting home again, and has more or less impelled me to get up and have a howl at last. Also there are five of the elect on this rock at Schofield barracks, all of us commissioned in the regular Army, and we get together now and then to talk over old times. Duell, Kennett, Burkess, and Kennedy are in the Field Artillery here; I am the renegade, being in the 27th Infantry, after a whack at the Air Corps. Warburton, Theisen, Robertson, and myself were at Brooks Field together in the fall of 1926, but they were on Reserve status, while I had definitely put up my right hand for the regular establishment.

"I guess Doc Wilder has told a lot more about that expensive bolt since 1925. Lots of things have happened to me. I've been from Hades to breakfast since I hung up the cox's megaphone, but I don't weigh a bit more. I went to work for the Morley Manufacturing Company in Portsmouth in 1925, and stayed there with them until September, 1926, when I accepted my commission in the regular Army Air Corps and went to Brooks Field, was transferred to Infantry in November, went to First Infantry at Fort Sam Houston, then to Ninth in June, 1927, and left there in September, 1928, on my way here.

"The best looking young lady of the post married me in May, 1928. She is the daughter of Colonel (now General) Robert McCleave, G. S. C., so you see a Technology man's luck still holds. We've got an eleven months' old young lady now, who is a holy terror and the joy of life at the same time. She raised her first yell last March 2 at 7 A.M. I've got a year and a half more to do here to complete my tour of foreign service and then I'll have four months of leave. I am hoping for east coast orders so I can take it around home." Thanks, Newell, for the news. I wish some of the rest of the Class would come across with so interesting a letter.

Art Worthington is in Madawaska, Maine, with the Frazer Paper Company, working on technical control. He took an extensive trip abroad last summer, returning in September. His interesting and vivid descriptions make one almost ready to stow away on the next outgoing ship. — Ed Harris is now in New York for the Mead Paper Sales Company. He and his wife and young daughter are living in Larchmont. — I saw Henry Sacks at the reunion dinner dance at the McAlpin on January 18. He is back in New York in the glove manufacturing business he was in while in Germany. — Eddie Dirks is in the research laboratory of the Tidewater Oil Company, and appears in town now and then.

Your Secretary is residing in New York for a while at the Fraternities Club building which houses the Technology Club of New York. My work is of a financial nature and therefore subject to geographical change. However, whenever any of you are in the city I wish you would look me up and we can arrange a luncheon together or something. Still being a bachelor, I would enjoy a visit, and then, too, I would like some news for The Review. — SCOTT EMERSON, *Secretary*, 22 East 38th Street, New York, N. Y.

COURSE XIV

It gives me great pleasure to announce that after a long silence I can present some real news. Those responsible for this sudden reappearance of Course XIV in the columns of The Review are Clarence Thulin, Frank Klein, and myself. Besides a lot of miscellaneous items, Frank produces a few real gems. He says in part: "On July 1 I reported at Wright Field for the purpose of taking the one year course at Engineering School. The course is a general aeronautical engineering one, consisting of about every subject pertaining to aviation, including practical work as well as the theoretical. The most important subjects are metallurgy, chemistry, electricity, mechanics, strength of materials, meteorology, navigation, thermodynamics, aerodynamics, propeller, engine, airship, and airplane design, business administration, flight testing, and so on. It is a great deal to cover in a single year."

In another paragraph comes the most important item: "On January 21 another young lady entered my life, Beverly Catherine, in the seven and one-half pound class. You ought to meet her. She's some kid! Connie is feeling just fine, remarkably so." For the speed fiends there is the following note: "I made Buffalo, 200 miles, in exactly one hour with my air speed showing 120 m.p.h., and landed in Boston three and a quarter hours after I took off from Mount Clemens, Detroit, a distance of about 600 miles." This speed was due, he says, to a tail wind of 80 m.p.h.

1925 Continued

Clarence Thulin says, "My resignation as technical supervisor at Massena took effect on January 31, and I left there on February 1 for Buffalo to accept a position with du Pont in the Cellophane Company." A little further on he says, "My change in working and living conditions is as complete as anything could possibly be. I came from a little isolated village up on the northern border to live in a hotel in the center of a fair sized city. (Residents of Buffalo will please hold their tempers.) Right on the corner here there are at least the following: two drug stores, three restaurants, two banks, one theatre, one dance hall, one post office, one police station, one fire station, two other hotels, and six or eight trolley lines, including the high speed line to the falls." In speaking of the other members of the Course, he says, "The only ones I have heard anything about are married. Can it be that I am the only bachelor of the gang? How about a line from some of the old gang?"

Having honestly waited until the end to speak of myself, I now state that I have returned to the neighborhood of Boston, where I have a position in the chemical laboratory of Lever Brothers Company, manufacturers of Lux and other soaps, and live at the address given below. Frank Klein's new address is the Air Corps Engineering School, Wright Field, Dayton, Ohio. Clarence Thulin's is Stratford Arms Hotel, Buffalo, N. Y. — HOLLIS F. WARE, *Secretary*, 9 Orchard Terrace, Arlington, Mass.

1926

As this is written, preparations are being made for an ecumenical conference of '26 men who reside in or about Boston. At a dinner in Walker Memorial which will have become a matter of history when you read this, it is expected that plans will be discussed for the part that the Class is to take in the All-Technology Reunion next June and for our own Five Year Reunion in 1931. Bill Rooney is in charge, and incidentally, his address was erroneously set out in the last issue. It should be Pettingell-Andrews Company, 378 Stuart Street, Boston, Mass.

The Secretary has culled from various sources the following items. Charlie Poore is now working in the statistical department of Filene's in Boston. — Dave Shepard has been transferred from Louisiana to New Jersey and he may be reached at the Standard Oil Company of New Jersey, or at 19 Pingry Place, Elizabeth, N. J. — Charles Kingsley is now a full time instructor at the Institute. Francis Van Buren is working for the Sugar Institute, Inc., 129 Front Street, New York. — Dick Parsons was recently married in Providence. Details are not available. — Corbit Strickland Hoffman, Jr., is in the Philippines. — Al Warner writes that the electric brake which he worked upon as a thesis at the Institute, after three years of intensive experimental work, has been developed and is ready for manufacture. His address is the Warner Electric Brake Corporation, Beloit, Wis.

Announcements of the following engagements have been received. Edgar M. Holmes became engaged to Miss Martha Elizabeth Fish on November 19. She is a graduate of Lasell Seminary and of the Boston Children's Hospital School of Nursing. Holmes is now a senior at the Harvard Medical School. — Alfred Smart's engagement to Miss Helen Louise Nagel of Newton was announced in November. Miss Nagel, who is a graduate of the Perry Kindergarten Normal School, is teaching kindergarten at the Davis School in West Newton. Smart is associated with the engineering department of the Beacon Oil Company in Everett. — George Wingate set the date for his wedding to Miss Helen Hardy for November 23. He is now with the Eastman Kodak Company of Rochester, N. Y., where he will live. Undoubtedly a number of others have been subsequently married.

One marriage is reported, that of Miss Dorothea Dow of Brookline to Theodore Taylor. They left for California where he will enter business in Los Angeles.

One birth has been sent in, that of a daughter to Mr. and Mrs. William W. Dunnell, Jr. — JAMES R. KILLIAN, JR., *General Secretary*, Room 11-203, M. I. T., Cambridge, Mass.

COURSE VI-A

Well, to continue where we left off last issue with the activities of each member of the Course, I find a few more cards have been sent in since then, so I shall arrange them in alphabetical order. Robert Conly classified himself as a special agent for the Aetna Casualty and Surety Insurance Company, and locates himself in Philadelphia. We always knew Bob was a rather special being, so he should make out well in this capacity. He tired of single life and on November 28, 1929, went into double harness and thereby started in that first year of married life. It is all the bunk, Bob. I just completed my own probation, so to speak, and if all years are like the first, you couldn't hire me to be single again.

Natale Gada, who was last heard of in Chicago, suddenly appears from New Haven where he is still working for the General Electric Company in their lighting department. Good old Nat has written of his doings, as humbly requested, but we'll save them until later. I only wish more would follow suit. — Merton L. Gilbert, who started out with us in VI-A, is now an instructor in automotive engineering at the General Motors Institute of Technology in Flint, Mich. Evidently he didn't get enough of schools. He was married in September, 1924.

Clifton Jeffery is the installation and service manager for the Teplow Service Company, which deals in oil heating installations in and around Brockton, Mass. This is a job for personality and diplomacy, and Jeff should make out well. — Bill MacInnes writes that he is Secretary to the President of the Savannah Electric and Power Company. Gee, but it must be great to have a big swivel chair and mahogany desk. How about it, Mac? — Clarence LeBel is still playing with bulbs in his capacity of engineer for the Hygrade Lamp Company of Salem. He is one of the few of us who has gone on with the hobby after graduation.

Walter Mearls is occupied as a junior engineer for the New York and Queens Electric Street and Power Company, and is located in Flushing, Long Island. A title of this sort covers a multitude of sins, so we can't say just how he spends his time. — Edgar Perry is honored with the handle of assistant engineer and spends his time with the New York Telephone Company. During all the times I have seen Ed of late, he has still to make clear to me just what he does. — George Rockwood is in the technical staff of the Bell Telephone Laboratories here in New York. He is to be classed among the married members of our branch, having said "I do" in April, 1928. The joys of commuting are his, as he lives in East Orange, N. J., and works in the Big City. — Edwin Spitzer is a research engineer for the General Electric Company, and is at present at their Schenectady plant. Just what realm of mystery he is endeavoring to solve we shall have to ask him to explain to us.

Alfred Steensen is another research engineer and he is employed by the Sanson Electric Company of Watertown, Mass. Jerry became a Benedick on November 25, 1927, and now resides in Dorchester. — Ed Wayne is looking for work at the last report. Anyone with anything in view for him might drop him a line at 511 South Conestoga Street, Philadelphia, Penna.

I don't suppose any of you would care to hear what I am doing, but to complete the record it must be added. My title is engineer in charge of the service and repair department of the Electrolux, Inc., which is a selling organization dealing in electrical appliances developed and manufactured by its parent company in Sweden. On February 23, 1929, I was married at Buffalo and since then have resided in or near New York City. On February 1, 1930, a small daughter joined my family to give me joy and keep me busy.

So ends the data on hand. If any of the missing members are in your locality, please give them a jog to write in their history in brief. This is to be a record of the doings of the members of our Course, so please write me your experiences in the cold, cold business world. It may interest your classmates and give them a good pointer or two on what to do if not what not to do. — BENJAMIN P. RICHARDSON, *Secretary*, 29 South Second Avenue, Mount Vernon, N. Y.

1927

For the past few months I have been unable to get much information about members of the Class. This month I am giving a brief report on those few men that I have personally come in contact with during the last three months. There are also some Course II Notes from Dave Knox which arrived just too late to make the March issue of The Review.

1927 Continued

At the Saturday evening Symphony Concerts in Boston I usually get glimpses of Morg Collins and Charles Kingsley, Jr. Morg is still instructor at the Harvard Business School and Charles, I understand, is back at the Institute. Last Saturday evening I met Harold Heins and his wife, and for the first time I learned that he has been married for some six months. They are living on Trowbridge Street near Harvard Square, Cambridge. He tells me that as soon as he has run down a report that Dave Luck is also married, he will send in some news for Course VIII.

Two weeks ago I spent the week-end with Howard Chinn at Round Hill, South Dartmouth, Mass., where on the estate of Colonel Green, the Institute is operating an experimental radio and meteorological station. Howard is in charge of the work and at present is busy correlating some measurements made last summer when they had the use of one of the Goodyear Company's small dirigibles. The research was undertaken to discover if possible how the intensity of radio signals is distributed in the vicinity of the transmitting station.

Working with Howard on another problem is Henry G. Houghton, Jr., who is measuring the ability of different colored lights to penetrate fog. Howard tells of seeing Ernest Dodge in New York, where he is working for the long lines department of the American Tel. and Tel. Company.

In the Park Street subway several days ago I ran across Lenvik Ylvisaker, who is in New England on an inspection trip. When he left the Institute he went to Louisville, doing flood control work with the Army Engineers. Last December he was transferred to the St. Louis office. His address is 819 Victoria Building. We met again that evening and I got a few more details about the dam business.

Dave Knox's Course II Notes in this issue remind me that at the Radio Show in New York last fall Harry Inskeep called on me and gave a report of himself. Robert Petersen also called and reported he was working with the manufacturer of Colonial radio receivers. — JOHN D. CRAWFORD, *General Secretary*, 7 Goodwin Place, Boston, Mass.

COURSE II

Two letters and a Christmas card constitute the sources of information for this month. Harry Inskeep, formerly an instructor in the Engine Laboratory at the Institute and later with the Linde Air Products Company in Buffalo, N. Y., is now a district engineer with the same company in New York City. Harry reiterates the opinion voiced to me by many other inmates of the four walls called Gotham that the depletion of the personal treasury takes place more rapidly in New York than in any other place in the country. Summarizing the nature of his work, he writes: "For eight months I was in the engineering office down here getting on the way that Linde Air did things. I was being trained for a district or division engineer. On the second of December I was transferred to the New York City district in the capacity of district engineer. My work consists of sales engineering and I am spending my time calling on architects and contractors, promoting the welding of pipe in heating systems and steam power work. The work itself is great and I like it. It brings me into contact with a great many men in the construction field.

"I saw Crandall near the Grand Central Station one day last spring but he got by in the crowd and I didn't get a chance to speak to him. A few weeks ago I saw Fitts at a dinner of the Coast Artillery officers. Fritz Glantzberg was out to Mitchell Field, L. I., the last I heard of him. I visited him one Sunday last spring but couldn't seem to get together with him after that as every week-end he flew away to see one of his several girls scattered over the country."

We are all glad to hear from you again, Harry, after all these months in hiding. It is pretty hard to tell from one day to the next where Fritz Glantzberg is going to be. I received a phone call from him one night here in Detroit. I was to see him the next day if the weather was too mean for flying, but unfortunately the sun shone brilliantly and Fritz hopped back to Dayton where he is stationed at Wright Field with the Materiel Division. He had been in Detroit to inspect some proposed Army aircraft equipment. His work, as near as I can make out, consists in inspecting new developments in the aircraft industry pertaining to miscellaneous equipment and assisting in the experimental development work for the Army at Wright Field prior to adopting the equipment to service planes. The following excerpt from Fritz's letter is an interesting sidelight on his daily routine work: "I made the trip up to Detroit last week-end in a Curtiss Hawk — the first time I have ever gone across country in a pursuit job. They hold about two hours of gas without an auxiliary tank. They told me I didn't need one. I didn't. I taxied up to the line at Selfridge Field with just two quarts of gas left in the tank." I hope we make better connections the next time you are in Detroit, Fritz.

Hal Hibbard sent me a Christmas card postmarked "New York," on the back of which he wrote: "I had fully intended to write you a long letter after my return from South America to compete with all the propaganda put out by Coffin, Knowles, McNeil and Company. Now I am off to Spain. Let's hear from you at the address on the envelope." The address is Cia, Espanola de Neumaticos Caucho Goodyear S.A., Numez de Balboa, 30, Madrid, Spain.

There are a number of names on my list which are not checked as having been heard from since graduation. Surely these men who have been recluses for so long should have something interesting to tell us. — DAVID R. KNOX, *Secretary*, 13505 LaSalle Boulevard, Detroit, Mich.

1928

My sheaf of Class Notes this month shows a decided slump after the new high they hit last month. However, our class cupid shows no sign whatsoever of slowing up, as you will easily discover as you read further and find who among your classmates has left bachelordom forever.

Jake Jacoby was married to Miss Margaret Mathieson of Surbiton, Surrey, England, on November 8, at Pelham, N. Y. — Mr. and Mrs. Reuben F. Schuler are now living in Elizabeth, N. J., where Rube is working for the Standard Oil Company. They were married last October. — Announcement has recently been made of the marriage of Miss Gusta Goldberg of Falmouth, Ky., to Samuel J. Shure of Chicago on New Year's Day.

In the engagement column this month the following familiar names are found linked: Dick Titherington and Miss Katharine M. Riordan of Sharon, Mass.; and Gil Smiley and Miss Elizabeth R. McKinney of Brookline, Mass.

Word has been received that Hank Harrington IV-A has recently met with an unfortunate accident and is now at the Frankford Hospital, Frankford, Penna., a suburb of Philadelphia. I have no details as to the accident and how it happened. The information I have is that one of his ankles has been badly crushed and that he will be at the hospital for some time. If any of you chaps located around Philadelphia have the opportunity, I am sure that Hank would like to see you. If you are not within calling distance, drop Hank a line.

Friends and former classmates of Hubert F. Wilson will be sorry to learn that Hubert died on July 20 at Aruba, Dutch West Indies, from injuries received in a steam explosion in the plant of the Pan-American Petroleum Company where he was employed. Hubert is survived by a young wife who had just joined him before the accident and by his parents, Mr. and Mrs. F. A. Wilson, three sisters, and two brothers. Hubert got his degree in Mechanical Engineering at the University of Texas and his Master's degree at Technology with our Class.

Last Thanksgiving Day Harold Harrington IV-A was married to Alice Payne of Graniteville, Mass. Congratulations, Harold!

We are also able to add some further notices of interest. William M. Hall VI-C was married in Woonsocket, R. I., on January 25, to Miss Sarah Fiske Redfern. Herman Krantz and Henrik Luykx were ushers. The bride was graduated from Simmons in 1929. Since graduation Hall has been specializing in sound engineering. He was for a time doing special work in sound development for Warner Brothers in their New York laboratories. Recently he returned to the Institute to do research work in the Department of Electrical Engineering. They will make their home at 6 Washington Avenue, Cambridge, Mass.

Chester M. Day VI-A is engaged to Miss Elizabeth Eveleth of Belmont, Mass. She is a junior at Wellesley.

Elisha Gray XV was married on February 8 to Miss Helen Battin of Albany, N. Y. They will live in Newark, N. J. The bride is a graduate of Wells College.

1928 Continued

The local Phi Gamma Delta chapter reports chapter visits of two '28 men, Jack Jordan and Grant Flynn. Jack is working for the Sperry Rail Service Corporation, whose main offices are in Chicago. He is at present on the road doing testing somewhere in eastern Pennsylvania. Grant is working part time in New York and part time in Cuba. — GEORGE I. CHATFIELD, *General Secretary*, Room 11–203, M. I. T., Cambridge, Mass.

COURSE V

Well, the boys are still alive and for the most part single. The response to my form letter enclosing a stamped envelope and paper was really overwhelming. For future reference, those of you who didn't crash through can supply material for this column later in the spring.

Fred Wolf is holding forth in St. Louis, Mo., and may be reached at 818 Olive Street. He is obviously making his way in great style as you can judge from these paragraphs taken from his letter. "My time has been full — what with studying and trying to practise law all at once. I go to night school three nights a week and work the other four. I also work daytimes, but differently! Some time hence I'll get a coveted LL.B. and hope it will do me more good than the S.B. Honestly, however, I'm really getting quite a kick out of life. This patent work is hard, but intensely interesting. My chemistry comes in enough to remind me that I once studied the subject. That's as I'd rather have it, because I don't think I was ever cut out to be a research man. Mr. Haynes, my principal, is a '09 man, and M. O. Porter is a '29 man, so you see we have a local majority of three out of four.

"My work leads to considerable traveling. I've managed to make Europe twice since graduation alone, and I come east about every two months or so. I've been back to Technology several times and seen several of the classmates who didn't have the will power to break away from the old place. They still have that hangdog look associated with the Institute."

Jimmie Farnum is still fussing around the Institute. He expresses it very aptly and with not a little feeling. "Here I am still at Technology, and with the prospect of remaining yet another year, in quest of the illusive prey known as the great Ph.D. Oh, those organic unknowns and damn mixtures!" Jim in a few words reviewed the activities of all the boys who are still struggling: "Jimmy Coe applies himself, so does Vernon. Batch and I struggle and Dick will enter the R. L. A. C. next term. Dick has been assisting Pitre and I have been assisting Beaker Joe. It is a good run, only Dick will never admit it."

Batchelder has placed me in a pretty pickle by writing a letter filled with information "not for publication." That's a big help. He does say that he has abandoned his quest for a Ph.D. and is out hot and heavy for a Master's this June. After that almost anything can happen and probably will. Batch's address is 36 Oakley Road, Watertown, Mass.

This from Perkins, who is living at 440 13th Street, Niagara Falls, N. Y.: "At the present time I am working for the Roersler and Harslacher Chemical Company of this city as a production chemist, and, of course, since I avoided as much organic chemistry as possible at school, it is only natural for me to be working with organic chlorides. The work is extremely interesting because it is so diversified. It combines plant operation, chemistry, and chemical engineering in such a way as to give endless variety.

"I have noticed in The Technology Review that getting engaged and getting married seem to be the principal activities of recent graduates, but I am sorry to report that as far as that activity is concerned I am inactive. The time may come when some designing female will cause me to loosen my stability. Up to the present my stabilizer has worked perfectly.

"Jerry MacGillivray dropped in to see me about a month ago. He is working for the Franklin Process Company in Philadelphia, and is, as would be expected, doing exceptionally well. He is, as you probably know, married and as the trite saying goes, the proud father of a daughter."

Tommy Larson, like several others, thanked me profusely for the writing paper and then used his own. I'm still trying to decide whether it's an insult or a suggestion. We'll quote his letter too. "I have been working at the dye works of the du Pont Company in Penn's Grove, N. J., exactly eighteen months tomorrow. I spent seven months in Jackson Laboratory where all graduate chemists start in, and now I am in the basic colors area working mostly on research problems. The work is not very clean but rather interesting. Penn's Grove is in South Jersey. It is thirty miles south of Philadelphia and fifty-five miles from Atlantic City. The du Pont Smokeless Powder and Dynamite plants are within eight miles.

"My address after January 1 will be Y. M. C. A., Wilmington, Del., which is directly across the Delaware River from Penn's Grove. I am still single and at present self-supporting. During the summer months I manage to make a little spare cash playing golf. E. C. Perkins is the only man of the gang that I have seen since that notable day in June, 1928. He spent several weeks in Wilmington about a year ago."

Dick Titherington wrote, too. He intimated that Batch had told me everything. That, however, was not for publication, so we'll have to wait until he calls on me some time in New York. At any rate, as he says, Dick is still hanging on at Technology and is hanging out at 562 Centre Street, Jamaica Plain, Mass.

It was inevitable! Some righteous person would call me to account for those stamped envelopes, and it would be Rube Schuler. Listen to this: "My first impulse was to write immediately to A. Schrader's Son, Inc., informing them of the vandal in their midst, who is slowly but steadily sucking their life blood by walking off with their letter paper and stamped envelopes. I restrained my better impulse, however, for the sake of old times, and instead wrote you this letter.

"Until June, 1929, I remained at the Institute working as assistant research fellow on Project No. 19 of the American Petroleum Institute's research program on petroleum. Along with it I managed to sandwich in the required courses for the degree of Master of Science. The results of my year's work will be published in the January or February issue of the *American Chemical Journal*. Toward the completion of this work the Standard Oil Company of New Jersey obtained wind of the unusual excellence thereof and placed their bid (amongst numerous others) for my expert services. I have been with them ever since busily engaged in their research laboratories stabbing 'olefins' in the back. My address is 610 Salem Avenue, Elizabeth, N. J."

In response to popular demand I'll break the news. Schrader lost its President a while ago, so naturally I got real active and threw my hat into the ring. Well, I lost and when the new President found out about the stamped envelopes I knew a scandal would break, so I up and left. Now that I'm older I can see the advantage of being a vice-president first, so here I am on the way, doing publicity (personal) and promotion (self) for Doubleday, Doran and Company, publishers, in their New York office. When you boys come to town drop in and see me. There might be a word or something of cheer awaiting you. — ALBERT S. DEMPEWOLFF, *Secretary*, 162 West 75th Street, New York, N. Y.

COURSE XVI

I hope some of you fellows get conscience stricken with what has been said in The Review about the shortage of news as to your whereabouts, occupations, and the absolute lack of scandal on any of you. When pressed for something to rattle about, choose yourself. Nobody will pay any attention, and by the time the listeners, or readers, get tired you may have thought of something to say. I'm not so conceited as to think I will have something interesting to say, but when trying to make up a good yarn, you never bother to check up on yourself as some one else would. So here goes.

I went to the show, and during the three days that I was there, I didn't see a soul. That proves this aircraft game is on the rocks. But I'll tell you all about the show. It wasn't such a bad show, but it was just another show. The same old airplanes, the same old engines, and the same old plush and velvet they used in their Chicago and Detroit exhibits. The only thing noticeable about the show proper was the general trend toward better cabin furnishings, such as good window lifters, better upholstering, and roomier seats. The insides were, in general, about as nice as any automobile. Except for an occasional airplane sitting around on doughnuts, there were no changes in any ships over the past year. However, there were a couple of new

1928 Continued

engines, that is, they had new names on them, and they are getting quite cheap.

They were gliders. Ours, Gliders, Inc., and Aeronca's powered gliders were shown. Yes, I admit it. We've been producing a glider and it isn't so bad either. Playing with a glider is certainly a lot of fun.

The Department of Commerce and the S. A. E. had lots of meetings, some of which I attended, also some of which I found interesting. The most noticeable thing about the show was the number of Wright Field and ex-Wright Field men present. I saw Newell, Niles, Roche, Kerber, Lt. Sutton, Dichman, Brad Jones, C. V. Johnson, Major Brower, and lots of others I knew.

A man in the P. A. A. booth told me that John Leslie was in Miami. I couldn't back that up for I haven't heard from him for almost a year. I heard through roundabout channels that Ed Walton was going back to the Institute and make up for some of the loafing he did there prior to 1928. Loui Miller is still feeling the pulse of the Curtiss wind tunnel, being backed by the presence of Ed Walton and Dick Busby somewhere on the lot. That's just it, those fellows can't get over that good old school feeling and have to go to work some place where they can take exams regularly.

I have actually had letters from Loui Miller and Doug Tooley. Tooley is still trying to convince General Motors that there is some reason for keeping the Fokker outfit out of the scrapheap. And old Johnny Stack, I understand, is pacing the floor down in Virginia in the wee small hours. I got a letter from Blount telling me about the rotten deal they get out in Chicago and Detroit when the companies go broke. He says they turn the fellows off, at least they stop paying them. Anyway, he quit when they stopped his pay.

You know these home sweet home boys can't be blamed so much. Alex Tsongas is back in Lowell working with Moth Airplanes. Now, that is my tale and I hope it sticks to me. If it isn't quite right and the whole truth and nothing but the truth, drop me a line and tell me about it. Well, drop me a line anyway. — JOHN P. BAILEY, *Secretary*, Cessna Aircraft Company, Wichita, Kans.

1929

After the voluminous notes of last month we are due for a comedown in this month's issue of The Review. Come on '29, the space does not cost us a cent, but that is not the important reason for using it. Just consider that every one in the Class is interested in you and your job, and think how you have neglected to give us the story of your life since you left Boston. Even a postcard will do, but an interesting account of yourself is what we all crave.

Good old Uncle Jerry Geisman reports that he has quit the leather industry and now purchases his leather wallets at retail. Jerry has been writing bits for *Judge* and hopes to finally land a permanent assignment with that humorous weekly.

Arthur Marsh is now in Kansas City, Mo., working in a plant installation for the Carrier Air Conditioning Company of Newark, N. J. After about three months in Kansas City, Arthur will be back at the Newark office.

Virgil McDaniel is now back in good old Boston. Mac resigned a position as assistant superintendent of a gasoline extraction plant of the Shell Oil Company of Oklahoma, where he has been since graduation, to do chemical research work for the Dewey and Almy Company of North Cambridge, Mass.

The Class deeply regrets the death of our friend and classmate, Philip Northrup Williams, who passed away at his home in Glastonbury, Conn., on June 8, 1929, after a short illness.

Wally Gale XVI has been elected to the rapidly increasing ranks of engaged classmates, according to Chicago papers. The young lady is Miss Joan Irvin of Tulsa, Okla., and the wedding will probably take place in June. We offer our congratulations, Wally. — Richard C. Wood IV is also to be congratulated, for his engagement to Alice L. Farny IV '33 was recently announced in Morristown, N. J. — Lt. Armand M. Morgan is also in line, for he is announced as engaged to Miss Gwendolyn G. Rockafellow of New York. — George I. Voigt IV-A is to be congratulated on his announced engagement to Miss Jessie A. MacDowell of Medford, Mass.

Alexander Darragh makes a welcome attempt to stir up some interest in Course II Notes by sending in some information about himself and his job. Being in Chicago, he suggests a Chicago pineapple to put under a few of the Course Secretaries. Probably he is right. He is with the International Harvester on an apprentice engineering course at the tractor works and is working all over the shops covering about 70% of the departments. He adds that he has just decreased his balancing ability by some forty-five pounds, in other words from 215 to 170 pounds. This reduction is attributed to hard work, mostly manual, lack of home refrigeration facilities before going to bed, and living on a budget.

The engagement has been announced of Almer F. Moore IV to Miss Isabelle Larsson of Hyde Park, Mass. Moore is a consulting engineer with a Boston firm. — Cyril Harding XV is engaged to Miss Ruth Dorothea Jensen of Milton, Mass., who is now a student at the Posse Nissen School. Harding is now in business in Lawrence.

Those Course Secretaries who are active seem to crash through about once each month with notes on their classmates and they deserve hearty support and congratulations on their work. Let's not place all the burden on their shoulders. Drop a line yourself today. — EARL W. GLEN, *General Secretary*, 339 Hillwood Drive, Akron, Ohio.

COURSE XIV

Thanks to the benevolent attitude of Ray Mosher, I don't have to rely solely on my own sources of information this time. Ray writes in part as follows: "Joe Collins is working in Quincy, Mass., for the Sprague Condenser Company. He is doing research and design work and says he likes it first-rate. He is looking well. Leo Goldstein visited the Institute a short time ago. He's looking for a job but as yet he has had little luck. Alec Souden, Ed Thomas, Rosen, Promisel, and myself are all back at the Institute doing graduate work. Everybody seems happy, but we are all, without exception, broke. Good old George Swift is still on hand and as usual is playing tricks on everybody. Jimmy Speare is clearing up a little matter of thesis. Basilio '28 is with the General Electric Company in Pittsfield. Max Kessler is in Boston, just back from Flint, Mich., and is now considering many lucrative offers. Lou O'Malley and Bob Canning are both at the Institute."

I was in Boston myself a short time ago, and I had the pleasure of watching everybody boning for exams without having to do it myself. Ray can say what he pleases about the fellows taking graduate work being broke, but they are the only '29 graduates I've seen who have private offices. The rest of us are in the working class and consider it lucky if we have a little desk space in some remote office corner. About the best I can do is share a typewriter stand with a big greener from Hanover. Al Addicks '21 was in the office a few days ago. He is sojourning in Philadelphia at present. He says that he had dinner with Ike Swope '27, and Curt McCune a short time ago and they are both looking well. Ike is working with the Philadelphia Electric Company. Curt is connected with a Philadelphia brokerage house and can be reached at Phi Kappa Sigma, University of Pennsylvania.

I attended a meeting of the operators' division of the New England Gas Association in Worcester recently and had the pleasure of meeting R. L. Fletcher '15, superintendent of the Providence Gas Company. Cunningham '27 was there also. He is now chemist with the Lynn Gas Company. I visited Cap Barker '16 when I was in Bethlehem about a month ago. Cap is now Head of the Electrical Engineering Department at Lehigh. He will be remembered by the Course XIV men for his unsolvable problems in 6.06 and 6.07. He has met with remarkable success in instituting his famous teas. Both Cap and Mrs. Cap looked well and prosperous.

I expect to be in Boston for about a week around February 20 for the convention of the New England Gas Association, and I should see a lot of graduates, undergraduates, and ex-men. Perhaps I can furnish more notes after that trip. — WILLIAM W. YOUNG, *Secretary, Industrial Gas*, 9 East 38th Street, New York, N. Y.

COURSE XV

Our contribution this month begins with a letter from Cubby Clark who writes from Boston that he is with Sears, Roebuck and Company in charge of their merchandising control system. "I've got a couple of girls working for me but

1929 Continued

things seem slow," says Cubby, which speaks well for the control part of the job.

Frank Pierson pipes up from New York to advise that he is now with the International Paper Company at their 42d Street office, working in their cost department. Frank writes that he is enjoying life immensely and no wonder. To wit: "A fine job, a great bunch of fellows, still a bachelor, and occasionally sober" which, together with the fact that the girl is also in town, makes for a perfect picture. However, watch out, Frank. It is a dangerous combination for a bachelor.

Wes Reynolds has returned to his native heath, the big town of Fall River, where, apparently, he is one busy boy "socially as well as industrially" as he puts it. Wes continues: "I am doing textile research work for the American Printing Company. I have five cotton mills in which to play and do all sorts of experimental work. It is extremely interesting as all research work is bound to be." Fine, Wes! Keep it up and keep us posted on developments "socially as well as industrially."

The President of the Dewey and Almy Chemical Company must have gone golfing one afternoon last week, as I received letters from both Bill Slagle and Doc Weddle, both of whom are with that company at Cambridge, Mass. Bill is assistant to the President and Doc is ditto to the general manager, all of which sounds fine, particularly in view of the fact that said executives are also Technology men. In fact, as I see it, it almost looks like a branch of the Technology Alumni Association. In addition to Bill and Doc, Bob Orill and Mac McDaniel are with them, trying, Doc says, "to find new uses for rubber." Oh, yes, Dick Piez is also with them, in the sales department. I haven't heard directly from the last three. I wish they would write in and either deny or affirm these reports I have received.

Ben Proctor, I hear, is at Rochester with the Stromberg-Carlson Company, along with Lee McCanne. I don't know just what they are doing. Perhaps they will write in and tell us by next time. I just got a letter from Art Marsh. He is with the Carrier Engineering Corporation at their Cincinnati office. Art is making a desperate attempt at hot air artistry, both literally and figuratively speaking. He intends ultimately to sell heating and ventilating systems. Since June he has completed one of the company's training courses and is now a sort of service engineer, particularly on new installations. Art, however, returns to Newark the middle of March to take another course, this time on estimating.

The delegation on the Coast, Bray, Dean, and Rogers, haven't been heard from for some time now. Having hitherto kept us quite well posted, we surmise that they have finally, and willingly, no doubt, succumbed to the wiles of nearby Hollywood. Too bad, for the rest of us.

And this concludes our broadcast for this month. To those who have written, thanks, and keep up the good work. To those who have not, we need some new accounts. Let us have them. We shall expect news from more of you. — ELMER A. SKONBERG, *Secretary*, Electric Motor Repair Company, 11–31 Park Street, Springfield, Mass.

Rocky Mountain Technology Club

THE annual election upheaval in January instated as officers of this Club, Dr. Severance Burrage '92, President, and Rudolph H. Fox '12, Secretary-Treasurer. Fox, however, on account of business, resigned in February, and Arthur L. Hill '23 was elected to fill his place. These officers stand ready to serve The Review Editors in what capacity they may.

In January the Club met at the home of Harold O. Bosworth '02, and in February at the home of Dr. Burrage, who is head of the biology department of the State General Hospital. At this meeting Dr. Burrage told in a very interesting way some of his experiences in 1917 when he went to Serbia as a member of the Red Cross Relief Commission. — ARTHUR L. HILL '23, *Secretary*, 508 Denver National Building, Denver, Colo.

New Haven County Technology Club

On March 12 the Club was entertained at the home of our President, Gerald M. Keith '12 at 186 St. Ronan Street. Professor Tryon, who is in charge of admissions at the Institute, came to talk about admissions and other things. Time was allowed for eating and the showing of some safe and sane movies. It was voted a very good time by club members and further meetings are planned.

The dance held at the Giant Valley Country Club was one of the best times we have ever had. We have already received requests for another. Do you want it May 9? — WALTER R. WEEKS '24, *Secretary*, 178 Willard Street, New Haven, Conn.

PLAN TO ATTEND THE REUNION ON JUNE 6 and 7

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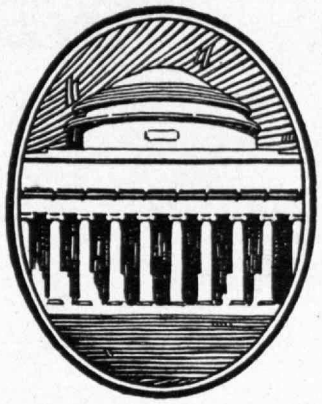

INFORMATION

THE TECHNOLOGY REVIEW BUREAU exists to supply authoritative information to anyone interested in details regarding the Massachusetts Institute of Technology. It serves as a clearing house for inquiry and aims to further the spread of exact information regarding entrance requirements, outline of courses, subjects of instruction and other information which may be of aid to the students considering undergraduate or graduate study at the Institute.

The Institute publishes a variety of bulletins, fully descriptive of individual courses, as well as a catalogue of general information essential to the entering student. The Technology Review Bureau will be glad to send, gratis and post free upon request, one or more copies of any publication listed below, or to forward any special inquiry to the proper authority.

Ask for the following circulars by their descriptive letters:

AB: For general information, admission requirements, subjects of instruction, ask for Bulletin AB.

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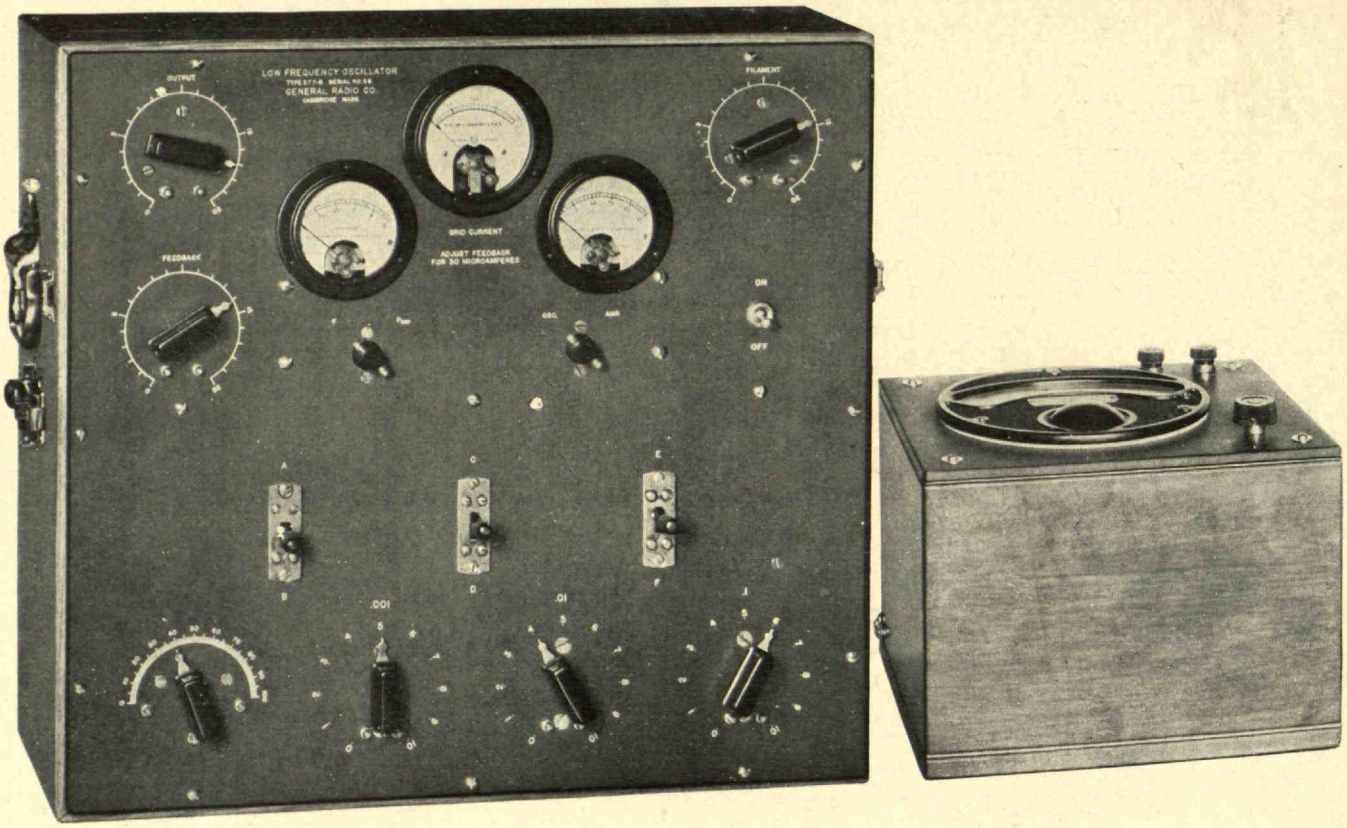

VACUUM TUBES IN MEASURING INSTRUMENTS

WHEREVER electrical measurements are being made at other than the commercial power frequencies (25 and 60 cycles per second) there are a hundred chances to one that thermionic vacuum tubes are doing a part of the work. The photograph shows two General Radio instruments: a vacuum-tube oscillator and a vacuum-tube voltmeter.

The oscillator is a battery-operated source of alternating current at any frequency between 25 and 70,000 cycles per second that the user may select. It is used in making all kinds of tests on communications, talking motion picture, and other electro-acoustical equipment.

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